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THE BRITISH INSTITUTE OF INDUSTRIAL ART.

WE are particularly glad, in calling attention to some of the present developments in the work of this Institute, to correct an error into which we were inadvertently led in supposing that the closing down at the present time of its Exhibition Galleries in Knightsbridge involved the cessation of its work as a whole. Quite the opposite is the case, and now that we understand the circumstances we see rather in the present changes a better prospect for its freer development. The Galleries in Knightsbridge were too large in the present early stages, and both the situation and the circumstances of the time made it undesirable to carry so heavy a weight, and in fuller understanding of its present policy of provincial propaganda we think the decision of the governors a matter for sincere congratulation. The administrative organisation of the Institute retains offices at the same address, and is now occupied on an educative provincial propaganda which is being well supported in the different localities. An exhibition of modern textiles is at this moment being strengthened by further examples of modern textiles to send to Huddersfield in June. The director of the Institute, Major Longdon, D.S.O., has only just returned from Cambridge, where, after addressing an influential meeting at King's College, when Sir Charles Walston took the chair, a Committee was formed and an invitation extended to the British Institute to take its exhibition there in October. Major Longdon, in the course of his address, outlined the object of the scheme, which, he explained, was "to link national industry and national education—to encourage fine craftsmanship and to emphasise the need for art in industry and so to raise the artistic standard of British goods." The trustees of the National Gallery of Scotland have offered, and the Institute has gladly accepted, the loan of four rooms in the R.S.A. Gallery in the autumn, and other important centres are following suit. When the Institute has sufficiently "starred" the provinces, and obtained the necessary hold on the national life—if accompanying these provincial exhibitions there is a statement of the aims put before the people, acquainting the nation as a whole of the need for a new outlook, for a wiser understanding of the place of beauty in life, its ameliorating and humanising relation to it; not to be sought as a matter of markets only, but because in beauty lies the completion of morality, and that the amelioration of industry in this way holds in its grasp the hope of the restoration of the world. If the Institute can return to London fortified with the right significance which the nation will have found in it as the result of such work, the foundations will have been laid which will secure it in an estimation justifying the establishment of permanent galleries in the centre of London for the further development of its work.

We are glad to notice the infusion of new blood into the direction; while welcoming this on the side of the manufacturer and in the election of fellows, we should like to see the Board of Governors itself strengthened by more adequate representation on the side of practising artists; this is, we think, necessary in order to secure that confidence from the craftsman of this country in the Institute which is required. We do not know whether the Board of Governors is elected as a permanent body, but it is not adequately representative of craftsmanship as it stands. We welcome the signs of progress, though the Institute must not claim too much for itself at the present time—bearing in mind the general distrust of movements and societies which is a symptom of the general uncertainty about things. It would not be right yet to regard the exhibitions—which we are glad to know are being strengthened—as of wholly representative character, because a considerable body of good work will not be included. The public should see rather in such an exhibition a nucleus of craftwork for guidance in the exercise of their choice, but not the limit of the scope through which it is procurable. It is important that this should be borne in mind, because otherwise it would appear to do an injustice to other good work not included in its catalogue, which in an Institute supported by a Treasury grant would create opposition instead of support. This is a difficulty which can be met only, perhaps, by the knowledge of the goodwill and civic purpose of the direction to raise it above any complicity in sectional aim, and this we feel sure it possesses.

In the early stages of the life of the Institute it can hardly be conscious of the implications lying in its own formation. It is little less than an entanglement that with its present loose and rather unidentified procedure the etchings of Mr. George Belcher and the romantic landscapes of James Guthrie fall under the designation of British goods. But no doubt means will be found to identify and group the different classes of work and in this we may see the necessary and logical outcome of such an Institution, which is to represent English art as a whole. If we justify the etchings of Mr. Belcher or another as exhibiting a process, the painter's craft is just as much a process, and the distinctions are really arbitrary which are drawn between one craft and another. We do not say this in criticism but in the hope that the Governors of the Institute will see the necessity for a representation which logically extends beyond its own present title to that of representing art as a whole, and it is with this hope before it that such an Institute should proceed.

The aim of raising the standard of British industry is one of extraordinary importance, coming at a time when life has lost confidence in itself. The chance for England is now no longer that of the old commercial supremacy, but that she shall become the mother of the arts and industry as well as of rule and government. If the new British Institute will carry along with its organisation a spirit sober enough to measure the extent of its task, remembering that that which can foster and develop industry comes from deeper sources of strength than any which organisation alone can bestow, we have no doubt of its future. But we have a long way to travel yet towards that self knowledge which will present the problem of the freeing of industry by beauty as one extending beyond all others. It is not here or there that present evils lie—our slums and darkened cities are only one side of the same evil seen under different disguise in Mayfair. The old philanthropies have collapsed because they were not founded on a reality which included æsthetics as a part of religion and which sought morality without its realisation in the outward. In beauty lies the completion of morality and it is the one solvent vast enough in its scope to draw our suffering human life together. So we bid "God speed" to the new Institute, because within it is contained the seeds of a new freedom that neither the reformer nor the politician without it will ever bestow.

NOTES.

Unification of the Profession. FOLLOWING the acceptance by the Unification Committee of the scheme submitted by the Sub-Committee appointed by them providing for the admission to the Royal Institute of British Architects of all architects in *bona fide* practice, or otherwise qualified, for their registration by Act of Parliament, and for the elimination of unqualified practitioners, a necessary step is obviously to secure the support of those members of the Institute who have been admitted as the result of hard study and examination, and we are glad to know that the President of the Institute, Mr. J. W. Simpson, has sent an invitation to all the Associates of the Institute to meet him and the Honorary Secretary at 9, Conduit-street, W. 1, on Tuesday, June 7, at 4.30 p.m., to discuss the steps taken towards the unification of the profession. The proceedings will be quite informal, and it is hoped that the engagements of Associates will permit them to attend, and that they will express their views on the subject quite frankly.

The R.I.B.A. Liverpool Conference. IN pursuance of the policy announced in the Annual Report, the Council of the R.I.B.A. has organised the first annual provincial conference of architects, which will take place at Liverpool on June 24 and 25. The arrangements have been made by the Council of the Liverpool Society of Architects, in consultation with a Committee of Presidents of the Allied Societies, and the Royal Institute is very much indebted to those members of the Liverpool Society who have given their time and energy so generously in order to secure the success of the conference. A very interesting and useful programme has been arranged, which we give on p. 710. The underlying idea of these conferences is to bring the London and provincial members of the Royal Institute into closer and more effective touch with one another, to enable the provincial members who cannot spare the time to attend many meetings in London to express their views on subjects of vital interest to the profession, and to bring home to the general public the organic unity of the organisation of the architectural profession. It is therefore hoped that all members who can possibly arrange to do so will attend the conference and take this opportunity of becoming better acquainted with the views of their colleagues in other parts of the country.

The Port of London Building. WE recently paid a visit to the new Port of London buildings in Trinity-square, and noted with great interest the signs of advance towards the completion of the interior, on which years of careful thought and design have been spent by the architect, Mr. Edwin Cooper. Its fine halls and corridors and dignified apartments are now receiving their embellishments of marble, wood and plaster, and in due course it will be our pleasure to lay before our readers some adequate illustrations of what will be one of the most notable buildings of our time. The effect of the exterior will, however, be largely enhanced by a proper treatment of its surroundings, and a fine opportunity is waiting to give the delightful piece of garden ground and trees in front of the main entrance a note of distinction and proper relation to the Port of London buildings. Obviously some tree growth should be curtailed and eliminated, and a touch of decorative formality applied to the making of a beautiful forecourt garden. It is to be hoped that the architect will be allowed to have some discretion in suggesting the right thing to do with such a golden chance. It is curious just now to look into the great rates office with its maze of scaffolding (see p. 718), which will before long disappear and disclose a busy office interior crowned by a dome of 107 feet in diameter, and reaching to a height of 80 ft. from the floor.

Architectural Association Conversazione and Dance. ON Thursday, May 26, the Architectural Association held its annual conversazione and dance, in spite of the difficulties occasioned by the coal strike. The somewhat unusual hours of eight to five were taken advantage of by the students and younger members only, some forty of whom were still found rotating upon the library floor on Friday, six or eight hours after the more serious personalities of Architravia, and their wives, had left. The reception by Mr. and Mrs. G. Gilbert Scott took place in the library on the first floor. The atelier, garnished with arm chairs and hung with students' drawings, served as a comfortable withdrawing room where members could listen to the orchestra. The Architectural Association exhibition of stage settings also attracted the interested attention of members.

The Custom House, Dublin (J. GANDON, Architect), which was destroyed by fire last week.

The "Titanic" Memorial, to be erected in Washington. By GERTRUDE WHITNEY. [Exhibited at Thomas McLean's Gallery]

An entertainment followed, at which a great deal of talent, humorous, dramaturgic, and musical, was displayed and applauded. The Grand Guignol thrill was entirely the work of students. The lecture theatre proving too small to hold the audience, a series of fauteuils was improvised in the court against the windows, whose sashes had previously been removed, and many more spectators were thereby saved from disappointment. Refreshments were served in the dining room. The arrangements on all hands were excellent, and one of the oldest functions of the A.A. once more asserted its perennial popularity.

Mr. Chesterton on Architecture. MR. G. K. CHESTERTON'S address on architecture before the Architectural Association, a report of which we give elsewhere, while not a very serious contribution to the subject was the occasion of an enjoyable evening, made more than ordinarily entertaining by the witty remarks of the lecturer, especially in reply to various questions which were put to him. Unlike some recent lecturers, whose claims to knowledge of the subject are probably no greater than Mr. Chesterton's, he had the courage to admit that he knew very little about architecture, but in spite of that his remarks were not without suggestiveness, and were certainly interesting.

A Suggestive Address. THE thoughtful address on Carpentry and Joinery which Mr. C. F. A. Voysey was to have delivered at Carpenters' Hall yesterday (see page 721) contained many interesting observations on modern tendencies as well as remarks on methods in carpentry and joinery. Probably Mr. Voysey does not expect a ready acceptance of all his conclusions, but there is a good deal in his lecture which we might do well to ponder over. We agree with him that it is to be regretted that fitments in houses are not more common, while his remarks on the recently suggested committee of taste are much to the point.

Design in the Arts. A TIMELY note on the need for proper public acknowledgment of the designer or maker of any work of art is forthcoming from Mr. Clifford Allbutt. Any true art which is produced in any form ought to be attributed to its right source. Instead of a costly silver cup or trophy given as a prize being known only as the production of a commercial firm it ought to be known as the work of a designer and craftsman, and its *greatest value* should be felt to lie in its expression of an individual artist. What kind of a portrait, says Mr. Allbutt, should we get if we ordered it through a picture dealer? Yet in this way we order a painted window, an organ, or a chalice and—we get what we deserve.

Post-War Churches. SIR CHARLES NICHOLSON'S complaint of the unseemliness of comparison between the national expenditure on motor cars, ministers without portfolios, free railway fares to M.P.'s, 6s. in the £ income tax, and the begrudging gifts to churches, surely goes far to prove that our religious sense is vastly deficient to what it was in the Middle Ages. A report of his lecture on "Post-War Churches," in which these observations were made, is given on page 705.

Ex-Service Men in the Building Trades. IN connection with the scheme agreed between the Government and the National Federation of Building Trades' Employers, the members of the London Master Builders' and Allied Industries' Association on June 1 posted notices on places where building works are in progress stating that on and after that date those works will be open to bricklayers, plasterers, slaters, and tilers only if they are willing to assist in the scheme. This is, no doubt, a reply to the recent circular of the operatives' Federation urging its members not to assist in the absorption of ex-Service men in the building industry.

A Fine Window. IN addition to the quarterly issued by the Peasant Arts Guild, now entitled *The Country Heart*, the Guild also issues papers, or pamphlets, on subjects connected with its work; and one of these, "Pathos and Humour in a Great Window," by Canon Meyrick, gives a good account of the east window of St. Peter of Mancroft, in Norwich. The account emphasises very well the essential difference, quite apart from craftsmanship only, in the outlook of these mediæval art workers. This window was done when the people were a community bound to one another by common aim and practice. Such windows were the work of the people by the people, rather than of the "expert" working for the committee or patron. As the writer points out—and let us think of it in the light of so much modern glass—"in this old window the art is so human, so simple, so grotesque, so pathetic, so throbbing with life and love and so reverent," and again: "It may not bear the delicacy and refinement that characterise the portrait painting of the eighteenth century. . . . The Mancroft artist worked for his comrades . . . he loved his Guild, for his Guild not only protected his craft but guarded the people's power and their liberty."

"Chinoise." By GERTRUDE WHITNEY. [Exhibited at the Paris Salon, 1921.]

A GENERAL meeting of the Architectural Association was held at 34–35, Bedford-square, W.C.1, on Monday last, Mr. G. GILBERT SCOTT, A.R.A., the retiring President, in the chair.

After the minutes of the previous meeting had been passed, the following new members were elected :—

Miss P. J. Freeman.	Mr. J. P. C. Chaurès.
Miss A. Wolkoff.	Mr. E. A. C. Ricketts.
Miss E. G. Cooke.	Miss E. K. D. Hughes.
Mr. C. L. Pope.	Miss I. J. Macfadyen.
Mr. J. V. Downes.	Miss T. C. Stanley.
Miss M. Eshelby.	Miss G. Gale.
Miss V. M. J. Martin.	Mrs. Clark.
Miss I. R. Harding.	

The report of the scrutineers on the voting for the House List for the ensuing session was announced as follows, and unanimously approved :—

PRESIDENT.—Mr. W. G. Newton, M.A.

VICE-PRESIDENTS.—Messrs. F. C. Eden, M.A., and E. Stanley Hall.

MEMBERS OF COUNCIL.—Messrs. H. Barnes, M.P., Cyril A. Farey, Gilbert H. Jenkins, H. I. Merriman A. H. Moberley, A. B. Ll. Roberts, Manning Robertson, L. S. Sullivan, T. S. Tait, M. T. Waterhouse.

PAST PRESIDENT.—Mr. Gilbert Scott, A.R.A.

HON. TREASURER.—Mr. Stanley Hamp.

HON. EDITOR *Architectural Association Journal*.—Mr. M. J. Tapper, A.R.I.B.A.

HON. LIBRARIAN.—Mr. G. G. Wornum.

HON. SECRETARY.—Mr. J. Alan Slater, M.A.

The RETIRING PRESIDENT, in moving a vote of thanks to the retiring council, which was passed with acclamation, said the Association had passed through a very difficult period since the war. It had become a question of policy as to whether the Association should go straight ahead or play for safety, but a progressive policy had been adopted by the preceding President, Mr. Maurice Webb, with the result that the Association had become the largest architectural school in the country. The efforts of the Association since the war had, however, to be paid for, and the Association was now in debt to the extent of £20,000. An appeal had been issued to clear off that debt, and although the appeal had only been issued a week the result had been very gratifying. Sir Henry Holloway had taken up £10,000 worth of the debentures that were being issued by the Association, and had generously returned £5,000 worth for the formation of a fund for the provision of scholarships at the A.A. Schools. The Endowment Fund amounted to £6,097, including :—

Messrs. Holloway Bros. ..	£5,000	0
Royal Institute of British Architects	500	0
The Builder	100	0
Society of Architects	50	0
Mr. F. C. Eden	5	5
Mr. G. Gilbert Scott	21	0
Mr. W. G. Newton..	5	5
Messrs. Knott & Collins	26	5
Mr. Detmar Blow	£26	5
Mr. Maurice E. Webb	52	10
Academy Architecture	5	5
Building News	10	10
Mr. H. Farquharson	10	10
Mr. J. Alan Slater	5	5
Mr. E. Stanley Hall	10	10
Mr. Stanley Hamp	26	5
Mr. J. Leaning	52	10
Mr. Cyril A. Farey	5	5
Messrs. Paul & Michael Waterhouse	10	10
Mr. A. Dunbar Smith	5	5
Mr. Henry M. Fletcher	21	0
Mr. G. Stickney	21	0
Messrs. Rowland Bros.	2	2
Messrs. Barrett & Wright, Ltd. ..	5	5
Messrs. Hall, Beddall & Co., Ltd.	26	5
Mr. W. L. Trant Brown	10	0
Mr. R. C. Gleed	2	2
Messrs. Oatley & Lawrence ..	25	0
Mr. W. J. Halls	5	0
Mr. Francis C. Read	1	1
Mr. E. O. Warne	50	0

He thought the generosity of the professional bodies and the professional Press in helping the Fund should be widely known. The subscriptions to the debenture issue amounted to £6,650, and there were further promises amounting to £700. The result of the appeal and debenture issue was very satisfactory, and had only been rendered possible by the indefatigable work of the Secretary, Mr. F. R. Yerbury, to which the response was chiefly attributable.

A Layman's Views on Architecture.

MR. GILBERT K. CHESTERTON then addressed the meeting on "A Layman's Views on Architects and Architecture," prefacing his remarks by saying that he knew absolutely nothing about the subject on which he was to speak. But Mr. Gilbert Scott had very kindly obliged him by explaining his subject on this occasion—a point on which he had hitherto been somewhat vague—and he understood it was their wish, or rather their heroic purpose, to endure a series of very disconnected remarks on the art of architecture as seen by one who was entirely ignorant of the subject. Speaking not so much about the architecture of the country as the position it seemed to occupy, he supposed the first thing that struck the ordinary outsider was that architecture was the only sane art left. Every other art was at present the playground for all kinds of extraordinary experiments, some of them promising, others perhaps rather threatening. But architecture had certain fundamental principles which prevented its going past a certain point in that direction. One of the things that kept architecture sane was the fact that it was connected with certain realities, such as the art of building and the laws of nature. In literature there were at present a large number of examples of various sorts of poetical prose and prosaic poetry, and a considerable number of lyrical poems written in irregular short and long lines. But people had to live in houses, and they did contrive to live somehow or other in the houses of even the most imaginative architects. But there were obvious limitations to the power of architecture to be entirely independent of realities, for if a house was built too badly it would fall down. Unfortunately, it was not true that a picture would fall down merely because of its excessive badness. In the same way it could be shown that almost all the other arts had in the nature of things a certain degree of liberty or looseness that architecture could not possess. They could not, for instance, have an impressionist building; they could have syncopated music, but not syncopated bricks—bricks entirely separated from one another and scattered in the air. Another habit very common to all the arts was the habit of transferring terms and arguments of the technique of one art to another. Whistler, for instance, named his pictures after musical terms, and at one time there was a fashion of introducing even the terms of ethics into art criticism, and people talked about a "generous painting of the umbrella stand"; there was a phrase like "the justice, yes, the mercy, with which the curtain at the back of the room is treated." He had always had considerable doubts as to the whole philosophy of the process on which that reasoning was based. The foundation on which all those theories were based was music. The writer of free verse argued: "Why should I not produce a moving, inspiring, intoxicating poem of irregular lines?" To which the answer was, "Why not, indeed." There, again, it was doubtful whether anybody had carried that principle so far or so extravagantly in architecture as in the other arts. It seemed that these free translations of terms were in the psychology and nature of the arts themselves, but it seemed that the only thing common to all the arts was that when the work of art had been produced it should have an effect on those who looked at it which was generally called beauty. There was no other common factor absolutely necessary to all the arts; it would, for instance, be absurd to say that because the height of a tower was very impressive a poem would look much finer if printed high up on a page. There could be no similarity in the production of beauty in the various arts; the only similarity was the thrill experienced when looking at the result. The great danger of the invasion of liberty and license in an art like architecture was that it would destroy itself; it would be impossible to allow what might be called anarchy in architecture without architecture destroying itself, for the buildings would tumble down. It was true to say of Gothic architecture that it achieved the problem of balance to a greater degree than any other style of building. It allowed a considerable amount of flourishing in its details, and they could "play the goat" a good deal in Gothic architecture. They could not, however, "play the goat" on such a grand scale as some modern architects desired to play it; they could not, for instance, build a whole cathedral in the nature of a gargoyle or a flying buttress. The mediæval spirit seemed to have struggled with, and to a large extent solved, the problem of the introduction of originality into building.

MR. W. G. NEWTON, in proposing a vote of thanks to the speaker, said, in architecture the trouble was not that architects were tempted to wildness or to disregard the laws of Nature, but rather that they had to obey the laws of the county councils.

The PROVOST OF ST. MARY'S, EDINBURGH, in seconding the vote, said he was glad the A.A. had before it the task of raising a considerable sum of money, for in building operations with which he had been connected the architect represented the spending department, and he had the task of raising the money.

MR. ROBERT ATKINSON said limitations on architecture were not unnecessary, for if left to himself the student would certainly produce a building that would fall down.

In reply to questions, MR. CHESTERTON said he thought some of the men who began the eccentricities in art (futurism, cubism, and so on) were actuated by a genuine imaginative impulse, which was healthy in so far as it awakened wonder.

MR. W. T. BENSLYN said Gothic architecture achieved a wonderful appearance of liberty combined with order. There was the "goatiness," the big, symmetrical plan, and a solution of the structural problem, and Gothic architecture gave the impression that the people who did the work enjoyed it.

MR. GILBERT SCOTT said he thought the inspiration English architects would get from America would be entirely Classical, and not Gothic. Most of the Gothic architecture in America, although very fine by one firm, was as a rule extraordinarily bad.

MR. CHESTERTON said in America he saw hardly anything but hotels and railway stations. Some of the railway stations, such as the Pennsylvania Station in New York, were admirable, but the hotels were almost all hideous, and nearly all built on one plan. It was surprising to think that the great danger in America was conventionality or sameness.

MR. AUSTEN HALL said he did not think American architects were better than English architects imaginatively, but they were very well trained and extraordinarily efficient.

POST-WAR CHURCHES.

SIR CHARLES NICHOLSON, Bart., M.A., F.R.I.B.A., delivered the fourth of the series of public lectures organised by the Royal Institute of British Architects at No. 9, Conduit-street, W.1, on Thursday last. The chair was occupied by Bishop Mounsey.

The title of the lecture was "Post-War Churches," and in the course of his address Sir Charles said the most difficult problem the post-war builder of churches had to solve arose from the abnormal cost of building. In spite of the hindrances to the resumption of normal conditions in the building trade, brought about by the reckless and ambitious official housing scheme, and the various spasmodic experiments on the part of the bureaucracy in regulating and practising building, there was no doubt that the laws of supply and demand would in time re-assert themselves, providing they were allowed to operate without State interference. There were signs that that process had already begun, but even under the most favourable conditions it was unlikely that the cost of building would come down to the pre-war level, although it must eventually be stabilised at a new rate governed by the purchasing power of money.

The present condition of things, if it did not seriously affect builders of business, municipal, or domestic premises, was heartbreaking to those who had collected sums of money for church building, as under the new circumstances these sums were proving quite inadequate for the purpose for which they were collected. It was not altogether seemly that a nation that could afford to pay 6s. in the £ income tax, a duty of £1 per horse-power on motor-cars, £5,000 a year to a Minister without portfolio, and free railway passes for M.P.'s should go churchless on account of its poverty; it was not fair or honest, if one had to retrench, to do so out of the missionary-box.

One result of the present high cost of building was that it operated more adversely in the case of a building whose characteristics were size and solidity than in the case of a smaller building. Take the case of an ordinary brick wall 100 ft. long by 30 ft. high: in the case of a common building such a wall might be two bricks thick, but for a substantial building the thickness should be three bricks. In pre-war days, with brickwork costing £15 a rod, the two-brick wall would have cost £225, and the three-brick wall £337—a difference of only £112 between shoddy work and sound work. Nowadays, the prices would be £675 for the two-brick wall and £1,012 for the three-brick wall—a difference of £337 between shoddy work and sound work. The cost of ornamental work had not risen to the same extent, one reason being that the wages of highly-skilled labour had not risen in the same proportion as for comparatively unskilled labour. The cost of plain, bulky buildings depended largely on the price of materials, and that had been adversely affected by the increase in transport and other costs. In the case of a building at Grimsby it was necessary to obtain the bricks from Peterborough, because the official "Solomon" had decreed that all the bricks from the Grimsby district should be sent to Yorkshire, in a district which possessed admirable stone quarries. In some districts, particularly in the north of England, the price of local stone had been so enormously inflated that it was now cheaper to use stone from the Midlands. The same process operated to a greater or lesser degree in every detail of building, and everyone was shy of embarking on worthy schemes of church building involving a cost out of all proportion to the pre-war cost.

The ultimate remedy must be that people must realise the altered value of money. But he saw no reason to lose courage when one considered what one's forefathers were able to accomplish in days when England was far poorer than now. It was sufficient to recall the rebuilding of the City churches after the Great Fire of London, those possessions which it was so lightly proposed should be bartered away at present. Even if they only looked back to the Victorian era they could take heart from the example of the Bishop to whom the country owed Truro Cathedral: from the example of the merchants of Liverpool, to whom Liverpool Cathedral was due; and from the successive Archdeacons of Westminster. The temptation that beset the post-war church builder was a very obvious one, and was brought about by the economic difficulties providing an atmosphere in which the ingenious and plausible "quack" might flourish, but although many of the new systems of building were no cheaper than brick great publicity had been given to artificial stone. The result was that the clergy often listened to the blandishments of the man who suggested that a very good church could be built with his own special materials. It was vastly to the credit of the clergy that as a rule the temptation to use these materials had not been succumbed to. On the other hand, the clergy with parish rooms and so forth to build were particularly prone to rise to the bait, and there seemed every prospect of a number of villages and smaller towns being provided in a short time with parochial halls built after the fashion of a third-class cinema. Although the clergy as a rule had too much good sense to try these experiments in actual church building, it was nevertheless touching to listen to the suggestions often made with regard to constructive details when a church building scheme was under discussion. The superstition that the use of reinforced concrete would solve the difficulties as regards cost was hard to combat, and the necessity for solidity in a church was difficult to inculcate.

The way to overcome the present difficulties was, in the first place, to realise that the cost of building must be measured by the real value of money and not its face value. In the second place, architects must study real economy in their work. But economy did not mean mere cheapness, and still less did it mean cheapness at the cost of permanence or dignity; economy meant the art of using just the right amount of one's resources to provide what was required. It must be remembered that although it was poor economy to carry out work with a reckless disregard for expenditure it was still worse economy to use niggardly what one felt would in the end attain the result at which one aimed. The art of architecture might be defined as the art of building economically, but nothing could be economy unless it attained the desired result. Except in a few cases, the duty of the architect was to produce a useful building rather than an abstract ideal. It was sad to have to confess that the world would go on very much the same whether it was adorned with cenotaphs and triumphal arches or not.

Although the purposes for which churches were used were more noble and less material than those for which civic and domestic buildings were required, a modern church had to conform to such a number of practical considerations that it might quite properly be criticised in the degree in which it fulfilled practical requirements. It must be sufficiently spacious, reasonably durable, conveniently planned, and, last but not least, it must possess that dignity which was demanded by its sacred character; of all those qualities, the last was the most essential in church building, and if it were lost or sacrificed the building could only be pronounced bad. If that were so, it would follow that any attempt to build a church without due regard to its artistic character was false economy, for the money expended to build a church would produce nothing but a makeshift, and the same result naturally followed whenever any of the other cardinal requirements were overlooked. Granted the various requirements enumerated were to be satisfied, the duty of the architect was to obtain the desired result with the least expenditure, and the man who knew his business best would get the most for the money available.

The conditions set before the mediæval builders more closely corresponded with those of the present time than the conditions which produced the architecture of the ancient and classical world. The mediæval churches were utilitarian in the same degree as churches should be to-day, and the means at the disposal of the mediæval builders were much less generous than at the present day. There were three great characteristics of the mediæval builders that modern architects would do well to copy: (1) They had a thoroughly practical knowledge of materials and their uses. They almost invariably used local materials, with certain exceptions in the case of buildings of the first importance. Where they could not obtain freestone they built of rubble, or brick, or timber, and they treated their buildings according to the materials at their disposal. The freestone building differed radically in character from the rubble or brick building, and the timber building did not imitate the forms of masonry. (2) They had a knowledge of construction from the engineering standpoint, and no school of builders ever knew better than they how to utilise the full strength of every stone and every beam in a building. They seldom wasted their resources by piling up masses of inert masonry with no particular work to do. The engineering skill displayed in some of the thirteenth-century French cathedrals was famous, and at home Lincoln Minster was a structural masterpiece only surpassed by such miracles as Henry VII's Chapel at Westminster Abbey. (3) The mediæval builders were thorough in business, as the old building accounts that had survived would show. These accounts were kept in a very careful manner, and materials and plant were obtained and kept for use in an extremely practical way. A careful control of small details was an essential economy in building: the architect should choose his materials wisely and study carefully what materials could be most economically used and best answer their purpose in the locality and under the conditions obtaining in the district where he was called upon to build.

Sufficient engineering skill should be used to avoid wasteful construction, but the building should not be erected in a daring manner or with only sufficient material to prevent its collapse. The architect should make sure that every brick and every beam would help to make the building stronger or more beautiful than it would otherwise have been. It was essential that the details should be thoroughly thought out beforehand, and in that respect it was remarkable how a little practical experience would help an architect to avoid waste of material and labour.

The most economical style to build in was one based on late English Gothic, and the old-fashioned and well-tried methods of construction if used with intelligence were more economical than the various substitutes that had been so widely advertised. In his opinion it was not wise to postpone building until the cost was reduced, but the best course would be to proceed with as much of the work as the funds in hand would permit. The plan of the church should be decided upon and a fragment built, any other necessary accommodation required being of the simplest and cheapest description. In many cases the chapel might be built at once; in such a case it should be built in good style, extending the permanent floor sufficiently for the whole area required and covering in the uncompleted parts with temporary work. It was worth while carefully to consider whether the materials used in the temporary work could be used in the permanent structure, and that suggested the economy of using brick for temporary walls. Roofing materials were not as a rule capable of being re-used economically, and it would probably pay to put quite temporary roofs over the temporary buildings. The temporary buildings need not be hideous, and they would be better if the roofs were supported by a few rough posts instead of broken spans. Unplaned boards looked better than matchboarding and were cheaper. The temporary building might have low brick walls, whitewashed inside, and a low roof carried on posts where necessary. The cost of guttering might be saved by making the roofs overhang well.

In the design of permanent churches, if economy was the main object in view, it was obvious that features must be aimed at that

could be produced without extravagant construction. The dignity of a building depended more on its proportions than anything else, and good proportions were a matter of brains, not money. If it was necessary to build a church as cheaply as possible it was wise to avoid wide, unbroken spans of roofing in order to avoid the necessity for making the building very lofty to obtain satisfactory proportions; it was obvious that a high building was more costly than a low one or one of moderate height, for not only were higher walls required but also thicker walls. The appearance of height was essential, but that could be obtained by a judicious arrangement inside the building. There was a superstition that pillars inside churches were designed to prevent people from hearing sermons, but a building that was cut up with pillars was often far easier to speak in than one not so arranged. In a very wide building that was sufficiently lofty to possess the dignity of proportion speaking was very trying, and, moreover, such buildings had a habit of producing all sorts of strange echoes. It was extraordinary how well the voice would travel in a Gothic cathedral, a style of building where the interior was more sub-divided by screens and arches than any other type of English cathedral. The question of apparent size was interesting, for the average old village church, which only held 300 or 400 often looked as long, as broad, and as lofty as the modern church holding from 500 to 1,000 The reason was that the old master builders had learnt the art of making the most economical use of their resources, and producing real architectural effect on slender means. It was by acquiring knowledge such as they possessed that the problem of post-war church building could best be solved. A boom in church building was not likely to come for some time, although some of the greatest works of past ages were carried out in times of great national unrest and financial difficulty. In applying themselves to the careful study of economy architects would be working under the conditions that produced all the schools of great European architects.

EXHIBITION NOTES.

McLean's Gallery.

The small collection of sculpture by Mrs. Whitney now on view at McLean's Gallery, still further emphasises the fact that this lady sculptor can take a serious view of the dignity of monumental art and realises much of it in her work. Her outlook appears to be always for breadth and dignity, though some of the subjects have the charm of tenderness and delicacy. If her work continues to develop in an architectural direction it should be in great demand, for in that way lies so much of our present-day weakness. Mrs. Whitney's accomplishment is great enough to make one hope for much more. There are on view at these galleries some masterly works by Corot, Wm. Maris, Harpignies, Israels, &c.

L.C.C. Arts and Crafts School.

The exhibition of students' work at the L.C.C. Central School of Arts and Crafts remains open till June 18, and our readers will do well to pay it a visit. The architectural work again reaches a fair level—in one case it goes further, viz., the "Wayside Inn," by W. Powell. The etchings are specially interesting this year, and show admirable results by A. W. Bachelor, D. Warry, G. Blakemore, Sidney Long, Ernest Blaikley, H. G. Hampton, Kenneth E. Hobson, T. J. Haynes, W. W. Manning, and Miss Judith Williams. The lithographs by E. Blampied are both forceful and refined; and there is real poetical feeling in Miss Hallward's work. Many excellent book bindings are shown—much of the carving is very well done; we could only desire to see a little more freedom of handling and spontaneity. In the designs for metal-work, we could wish there were a little more departure from well-worn designs. The pottery shows refinement of form and colour; the little two-handled vase by Miss Altran is specially good.

THE ATELIERS OF ARCHITECTURE.

By Howard M. Robertson, M.S.A., S.A.D.G.
(*Principal, Architectural Association Schools*).

In the preface to "The Doctor's Dilemma," Mr. Bernard Shaw holds that the last person to judge of the necessity or otherwise for an operation is the surgeon who is to do the job; for, as a person pecuniarily interested, there is a strong possibility of his judgment being biased. There is always the chance of a similar indictment being preferred against any person connected with a school of architecture who presents a plea for architectural education. In the present case, however, the defence is simple. Firstly, the writer is not otherwise than academically interested in the existence of the ateliers; and, secondly, if an atelier is to fulfil its functions it is bound to remain more or less in the position of a "poor relation" to a school, one whose hopes of inheritance are greater than those of contributing to the family budget.

Schools, in the sense of full-time schools, stand in a definite relationship with the ateliers. For a school student, design and theory have come before any large degree of practical experience. For the atelier student, the reverse is probably the case. So schools and ateliers should not, and do not, compete. Rather the one is the complement of the other. The atelier movement came into being before the war, through the initiative of the Beaux-Arts Committee, the movement being made possible by the support of the Society of Architects. The First Atelier of Architecture was an immediate success, and the results have been very widely felt, especially upon education. It looked as if the movement would spread, and undoubtedly it would have developed strongly had not the war crippled it and dispersed its followers.

Since the war the Architectural Association brought its own atelier into being. A similar movement was initiated by the University of London, and these two were joined by the atelier which Mr. Fernand Billerey had developed through his own personal endeavours. And a few weeks ago everyone interested in education was glad to see the First Atelier reopen under the able direction of its former teacher, M. Chaures. At the present moment there is talk of other schools supporting the movement, which will be taken entirely under the ægis of the Royal Academy and which will thus benefit by being co-ordinated and fostered.

At a time, therefore, when there is a chance of really important developments taking place it is desirable that there should be a clear understanding of the aims and functions of the ateliers; any discussion of these will prove more enlightening than a mere exposition of the "conditions of entry" and "fees payable." The latter details can be supplied after the student has decided for himself whether he wishes to take advantage of what an atelier offers.

The full description of an atelier might be "atelier of design." It is a studio where students go in the evening to work at design, and where they receive help and criticism from a qualified "patron." It is not a night or evening school, nor does it attempt to supply a full course of architectural training or take the place of an architectural day school or of office pupilage. Its object is to give training and practice in architectural composition and design to students working in offices who have no other opportunity of otherwise improving themselves in these essentials. It does not pretend to provide elementary instruction for those without previous training, and who should certainly attend a proper school, nor is it a place where the "practical man" can go to get a smattering of colour work and learn "to put in those nice foregrounds." It is intended rather for those students who have had previous training to a certain standard, and who wish to keep fresh what they have learned, and improve upon it. For only a student of a certain experience can hope to benefit rapidly under the very free and easy atelier regime where only a limited staff is available, and where "nursing" is impossible for that reason.

The word "atelier" is perhaps misleading if taken as a *rapprochement* to the French Beaux-Arts ateliers, for the latter are essentially day studios in which is performed all the work required for the very complete architectural course of the Ecole des Beaux-Arts. Construction drawings, perspective, mathematical preparation, etc., may all be carried out by the students in the French ateliers, although it is true that the patron is chiefly concerned with the design subjects alone. But the French atelier actually corresponds much more to one of the English school "year" studios than to the atelier as we have come to understand it. Where, however, the greatest resemblance should lie is in the vivid spirit of competition which is the life of the French ateliers, and which should be the mainspring of our ateliers here.

In architectural training, as in commerce, competition is a great incentive. The essence of the atelier movement, so far as its success is concerned, appears to lie in fostering this spirit of emulation. If there is only one atelier existing, it is doubtful whether it is possible to have the judgments and criticisms of the work on a sufficiently large scale to make it really stimulating, not only for the students but for the patron. In a day school it is different; the numbers are much larger, and there is always the possibility of comparing the work of different years, reflecting the capabilities alike of students and staff.

At present the chance for the fostering of the competitive spirit is at hand. There is an opportunity for an active committee of the ateliers to organise joint programmes and joint criticisms, and to try to arrange for competitive prizes. And it might be possible in a short time to have a parallel committee of students, with a delegate from each atelier, which would represent the views and criticisms of students and help also the *esprit de corps* of the whole movement. It is necessary, besides, that it be clearly understood just what are the advantages offered by the ateliers in return for time and money spent in their support.

At first glance there may seem to be many drawbacks to the system, both from the point of view of the student and his possible employer. Architectural training is, unfortunately, quite an expensive affair; and

at the end of a five, or even three, year course the architectural student is probably thinking more of earning money than of expending it on education. Then, again, there is the question of physical strain; a full week's work in an office is strenuous enough without working on design in the evenings and doing twelve-hours sketches over the week ends. And, to crown all, there is the objection of the practising architect, who may complain of his assistant turning up in the morning betraying all the traces of a nightly vigil. All these, however, are worth overlooking, provided that it is granted that the standard of architecture may be raised by education.

From the point of view of the student, it is clear that a five-year course in a school is a very minimum from which to expect adequate training. In that space of time it is possible to acquire only the outline essentials of architectural design, and in that period the student has had very little office or building experience, and so has little opportunity of putting his architectural training to the test. It is only with increasing experience, by actual building, by noting how other architects tackle their problems, that one learns what to remember and what to eliminate from the mass of impressions gained from a school course. Every teacher knows how well those students perform who have had a training, have gone out into the profession, and have returned to improve themselves further by renewing their study in design and theory. This is because their contact with the world of actual building has given them perspective and greater critical capacity, allowing them to assimilate further training very rapidly. It is at this point that the atelier becomes valuable. If on leaving the day schools students would come back at intervals, if only for two or three months in the year, they would make very great strides. And the training which they had acquired rather pell-mell during crowded years would have time to crystallise instead of melting away amongst new impressions of office life.

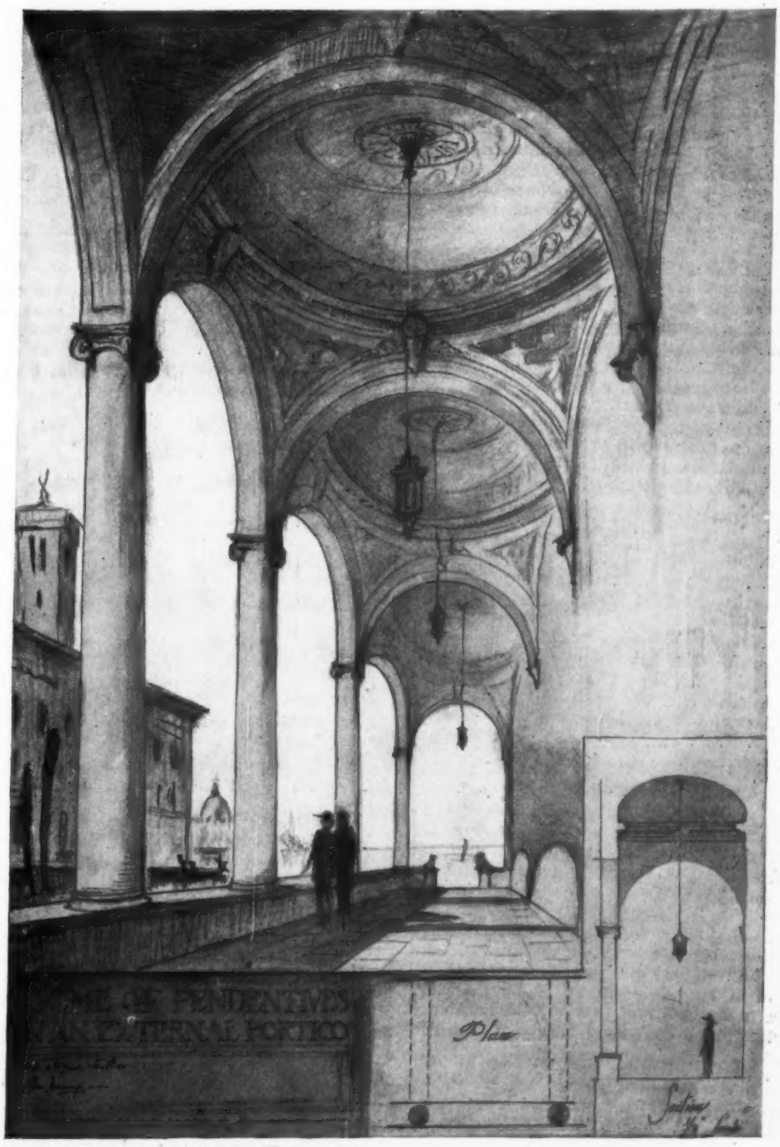
Practising architects, if they looked back on their own beginnings, and looked forward also to the future, would be inclined to overlook the night work of their assistants and the possible loss of day-time efficiency; for though this might occur, yet at the same time the quality of assistants generally would improve, and eventually better architecture would result. It is analogous to the argument between pupilage and school training; and for the latter it is claimed that it provides a better foundation, enabling the student to go further in the long run although he may be outpaced at the start. Architects will have to be tolerant and encourage what may be to their detriment at first for the sake of altruism, or at least of ultimate benefit.

It may be urged that students should continue their design studies by entering for competitions, and incidentally have the chance of picking a big "plum." This might be true in very exceptional cases of men who are so proficient that they need little more schooling, but these are very rare, and the average man will have to train himself to a fine point first and then later go into competitions seriously. The disadvantages of entering for the sake of practice are that one gets no regular criticism, one does not see others at work, and, beyond the fact of failure, does not know what the assessor thought, and why. Incidentally, competitions are very expensive, are a great strain, and are apt to be spasmodic in their occurrence.

Logically speaking, there seems to be every reason why the atelier movement should prosper once it is realised that the struggle and work involved are sure to be rewarded by bigger chances of success later on. The proof is to hand already in the number of good men who passed out of the ateliers in the short period of their existence, some of whom are performing the service of imparting their knowledge to others. And it is interesting to note that one of the ateliers is represented amongst the successful competitors for the Rome Prize of 1921. Time alone will show whether the ateliers fill a real educational need. But should that prove to be the case, then the movement should be supported very fully and the facilities extended to the provinces as well as London.

The South Wales Institute of Architects.

In connection with the exhibition of the Royal Institute of British Architects prize drawings, held at Swansea last week, Mr. Glendinning Moxham, Chairman of the South Wales Institute of Architects (Western Branch), entertained a gathering of South Wales architects to luncheon at the Baltic Lounge. Amongst those who accepted the invitation were Messrs. H. C. Portsmouth, Ivor Jones, Percy Thomas, Cook Rees, J. Herbert Jones, T. Gibb, E. E. Morgan, C. S. Thomas, H. A. Ellis, O. S. Portsmouth, G. H. Rogers, G. L. Crocker, Victor Ward, Teifon Williams, V. H. John, D. J. Howells, D. Davies, P. J. Williams, J. C. Gower, F. A. Martin, R. G. P. Williams, W. T. Lloyd, Bayliss, C. K. Brice, L. W. S. Lowther, and Edwin Smith. Speeches were made after the luncheon and a hearty vote of thanks was accorded to Mr. Moxham for his hospitality. A visit was then made to the exhibition, where the drawings were viewed with great interest, and general appreciation expressed at the very fine work shown.



Architectural Association Students' Work.

Design for a Loggia: Twelve-Hour Sketch.

By MR. ALAN DEVEREUX (Fourth-year Student).

[A design for an interior in which a dome on pendentives was to be the treatment. A sketch subject is set in order to encourage the rapid expression of architectural ideas.]

GENERAL NEWS.

Professional Announcement.

Mr. William P. Horsburgh, Lic.R.I.B.A., M.Q.S.A., has been appointed architect to the Liverpool Exchange Company, in succession to Mr. James Dod, who is retiring after twenty-eight years' service.

Wages and Hours of Labour.

The Ministry of Labour has issued a volume of some 300 pages (London: H.M. Stationery Office, price 2s. 6d. net) giving particulars of the rates of wages and hours of labour recognised in various trades in the United Kingdom. The information is brought up to date to December 31, 1920.

King Edward VII Statue.

The First Commissioner of Works has forwarded to the Westminster City Council a plan showing the position in Waterloo-place on which it is proposed to place the statue of King Edward VII—approximately on the site of the Napier statue—and the General Purposes Committee of the Council recommends that no objection be raised.

Victoria and Albert Museum.

The library and the students' room of the Department of Engraving, Illustration and Design (Room 71), at the Victoria and Albert Museum, now closes on Mondays, Thursdays and Saturdays, at 9 p.m., instead of 10 p.m. On Sundays the Museum will be open until 6 p.m., instead of 5.30 p.m., as at present; the closing bell will ring at 5.50 p.m. The hour of closing on week-days will remain as at present—5 p.m.

An Up-to-date American Post Office Building.

According to *The Times*, the mammoth new Government Post Office building at Chicago, the construction of which has just been begun, will have a roof upon which mail aeroplanes will be able to alight and to "take off." The building will also be connected by miniature underground electric railways with all the principal railway termini in the city. Communication between the various departments will be conducted by means of moving bands, upon which mail sacks can be carried all over the building.

The Northern Polytechnic Institute.

The Department of Architecture, Surveying and Building at the Northern Polytechnic Institute, Holloway, N. 7, arranged in 1920 to place in offices ex-Service men training as architects for a portion of the long vacation to give them office experience. The scheme proved so successful that it is proposed to put it into force again this year. Architects who would take one or more of such men during the months of August and September should communicate with Mr. T. P. Bennett, A.R.I.B.A., Head of the Department.

Ancient Monuments in Scotland.

The seventh Report of the Royal Commission on the ancient and historical monuments of Scotland states that an inventory of Dumfries-shire has been made, and gives a list of monuments in the county specially in need of protection (which includes Kirkbride Church, Durisdeer), and a further list of monuments deserving protection but not in imminent danger. Since the resumption of the work of the Commission in 1919, the survey of East Lothian has been finished, and that of Mid Lothian is expected to be completed this year.

Northern Architectural Association.

The Northern Architectural Association held the first of a series of summer session outings on May 28, when the members visited the Empire Theatre, Newcastle, which had been placed at the disposal of the Association for the afternoon. Amongst those present were the President, Mr. T. R. Miller, Mr. W. Milburn, Mr. W. R. Plummer (Tynemouth), Mr. Burns Dick, and Mr. J. T. Cackett. The President gave an address on the stage, and described the general construction and working of the fire-curtain, cloths, and other accessories of the modern theatre behind the footlights.

Worcester Archæological Society.

On Wednesday last week the members of the Worcester Archæological Society visited Chaddesley Corbett church, and the house of Col. Henry Howard at Stone. Within the church, Mr. John Humphreys, the President, remarked on its specially interesting features. He said there was no church in the county comparable with it for the beauty of its 14th-century work. The decorated piscina was the most beautiful in the county of its kind, the next best being at Sedgeberrow. There was a very fine font of pre-Norman workmanship, one of the finest specimens shaped like a chalice, of massive design, with ornamentation of serpent or dragon forms with their bodies intertwined, and twisted lines carved boldly upon the bowl. There was a fine Norman doorway on the north side of the nave, and piers and arches of the north aisle represented the oldest portion of the church. The arches in the south aisle were early English, probably dating back to the 12th century. Mr. Humphreys also called attention to certain monuments, one a remarkable brass memorial thought to be the oldest in Worcestershire.

The Surveyors' Institution.

The following Scottish candidates have satisfied the examiner of the Surveyors' Institution in the Scottish Examinations, 1921:—

INTERMEDIATE EXAMINATION: Non-Students.

W. A. Hathaway, Glasgow
W. Hogg, Midlothian.
P. Johnstone, Glasgow.

FINAL EXAMINATION.

J. Adam, Glasgow	J. D. Brand, Glasgow
J. M. Duguid, Dundee	J. W. Dunn, Glasgow
A. Macfarlane, Motherwell	P. G. MacGregor, Glasgow
T. B. Manson, Glasgow	A. Sutherland, Glasgow
A. Watt, Aberdeen	

SPECIAL SINGLE EXAMINATION.

G. S. Barry, Maud	G. C. Chessor, Fraserburgh
R. B. Haddow, Bridge of Weir	*P. C. Harrison, Cambuslang
J. Langlands, Dundee	J. W. G. Menzies, Kirkaldy
K. N. Morham, Edinburgh	C. C. Reid, Glasgow
J. G. Simpson, Glasgow	G. Spark, Aberdeen
J. T. Stark, Helensburgh	A. M. Stewart, Dalmuir
J. Thorburn, Motherwell	J. Usherwood, Glasgow
J. M. Wilkie, Glasgow	A. J. M. Wilson, Perth

* Scottish Prize.

An abstract of the annual report of the Surveyors' Institution is given on p. 718.

University of London, University College.

The Annual Report of the University College Committee states that during the year ending February, 1921, the total number of students enrolled was 2,833 (1,587 men, 1,246 women); of these 2,157 (1,363 men, 794 women) were taking day courses, 389 (128 men, 261 women) evening courses, and 287 (96 men, 191 women) vacation courses. One hundred and fifty-nine degrees and diplomas were taken during the year, of which twenty-eight were higher degrees. The Report contains a record of the chief activities of the year, including the report of the Bartlett School of Architecture. The School of Architecture comprises the Schools of University and King's Colleges, previously separately conducted, and is housed in the new building provided by Sir Herbert Bartlett, Bart. The report of the Bartlett School of Architecture, prepared by Professor A. E. Richardson, F.R.I.B.A., Professor of Architecture at the School, states that the total number of students working in the day school in the session 1919–20 was 86. Of this number 6 were Degree students, 49 were Certificate students, and 31 were student taking special courses. The Certificate was awarded to six second-year students. The average number of designs produced by the second-year students was four per term. Sixty lectures were delivered during the session by Professor Richardson on pre-Classical, Greek, and Roman architecture. These lectures were supplemented by frequent visits to the British Museum. Sixty lectures were delivered by Mr. Arthur Stratton on mediæval and Renaissance architecture in Europe, and numerous theses were written in connection with these lecture courses. Demonstrations on presentation of architectural drawings were given by Mr. Bradshaw, and on special subjects, including Byzantine architecture, by Mr. Henderson. Sixty lectures were delivered on building construction by Mr. Martin Briggs, and these lectures were supplemented by demonstrations in construction and materials given at the Carpenters' Company's School. During the vacations, students were encouraged to visit museums and historical buildings, the result being a representative exhibition of sketches and measured drawings, which was held at the beginning of this session. Many of the students taking the second-year Certificate course volunteered to form the nucleus of the third-year course now under consideration, in connection with the educational scheme advocated by the R.I.B.A. and adopted by other schools. The evening school had an average of 16 students per week, and although the classes were originally arranged to terminate at the end of the second term the School was kept open one evening per week in the third term free of charge to the students, the Instructor having volunteered to undertake the duties without extra remuneration.

COMPETITION NEWS.

Carnarvon.

FOR THE ROYAL NATIONAL EISTEDDFOD OF WALES HEROES' MEMORIAL COMMITTEE.—Designs for a memorial. (See our issue for May 20.) The President of the Royal Institute of British Architects, Mr. John W. Simpson, has nominated Mr. G. Gilbert Scott, A.R.A., F.R.I.B.A., as assessor in this competition in conjunction with Lord Plymouth. Sending-in day, July 23.

Other Competitions.

Other competitions still open include Cairo Hospital (October 3); Chauny water supply (June 10); Wolverhampton war memorial (August 13); Blackpool war memorial.

Greenock.

FOR THE WAR MEMORIAL COMMITTEE.—Designs for a war memorial, to cost £7,000. Conditions, &c., from Mr. Andrew Nimmo, Town Clerk, Greenock. Sending-in day, August 1. (See our issue for May 6.)

Herefordshire.

FOR THE WAR MEMORIAL COMMITTEE.—Designs for a memorial, in the style of an Eleanor Cross, to be erected in the Cathedral Close, or, alternatively, a figure of a soldier. Cost not to exceed £2,000. Sending-in day, June 14. Further particulars from the Hon. Secretary, War Memorial Committee, Shire Hall, Hereford.

Ministry of Agriculture and Fisheries.

The Departmental Whitley Council of the Ministry of Agriculture and Fisheries has decided to hold a competition, limited to the staff of the Ministry, with a prize of 10 guineas, for a design for a memorial to the members of the staff who died on active service in the war. A jury consisting of Sir Lawrence Weaver, Major H. P. G. Maule, Major Maxwell Ayrton, and Major O. P. Milne will judge the entries. A sum of £200 has been raised by the Ministry's staff, and the selected memorial, which will be of marble, will be placed in the entrance hall of the new offices at 10, Whitehall-place.

CORRESPONDENCE.

Research on Building Materials: The Use of Lime Instead of Portland Cement.

SIR,—After reading the very practical suggestions which Mr. Alan E. Munby recently gave at the meeting of the Royal Institute of British Architects, I have thought that perhaps the following notes may be of interest, for I do not think they are universally known although people who have studied the use of lime may be aware of them.

LIME CONCRETE.—While the war was being waged a firm had to put down a concrete floor at their works and had difficulty in obtaining sufficient Portland cement, so they used lias lime concrete and floated it over with Portland cement mortar. This appeared to give a very good floor, and the only objection they had to make was the slow setting of the lime concrete. But, after an interval of three years, the floor sounds hollow here and there, owing to the ¾ in. cement floating not adhering to the lime concrete. It has also cracked, and the surfaces adjacent to the cracks have been badly affected by the traffic. It is a warning not to place cement work over lime concrete, because lime has not sufficient cohesive strength to retain the cement rendering when subjected to traffic. Nevertheless, if cement plastering on a wall is well-keyed it holds the thin coat of lime plaster which is often placed over it.

LIME PLASTERING.—Probably the most fatal objection to the universal use of lime for exterior plastering is that a sharp frost will crumble the work if it follows while the lime plastering is damp, and there are few months in England when one can be sure that the nights will not be frosty. If Portland cement is used, it generally sets sufficiently hard to be unaffected by the frost, except during the severe frosts we get in the depth of winter. Labour is so expensive nowadays that it is a serious matter to do work twice over, even if the material used is much cheaper.

Mr. Munby mentioned that a patent was taken out in 1856 for strengthening lime, a process which doubled the strength of the mortar "but nobody, to-day," he said, "appears to be conversant with this patent method of strengthering lime." I do not wonder at this invention becoming obsolete, for to whose interest is it to advocate the use of lime made according to an expired patent? Who will go to the expense and trouble of demonstrating its goodness and utility? Certainly nobody would get any financial advantage from it. My experience of putting new methods of construction on the market is that no matter how good they are architects are rightly conservative because of the serious liability which attaches to an architect's adoption of anything which may be detrimental to the structure he erects. It is essential that the uses and the non-detrimental effect of any new material should be advertised, otherwise it will remain unknown, but in the year 1856 there were not the journals which now exist for publishing advertisements. The following incident will better illustrate my meaning: One of the exhibitors at the recent Building Trades' Exhibition at Olympia asked me how to make his invention known to architects. When I told him what he would have to spend before he could benefit both himself and the architects—for his invention was beneficial to the community—he departed shaking his head. Three days afterwards he brought his wife to me, and she told me that I had much better have advised him to give the money to her! So I suppose this most admirable invention, which is patented, will lapse for want of publicity, like several other inventions which have been introduced to my notice and which would have undoubtedly benefited the building industry.

It is an axiom amongst advertisers that advertisements cannot profitably sell a worthless article, but a worthy article cannot be sold except by advertisement.

J. H. KERNER-GREENWOOD.

Government Cottages in Ireland.

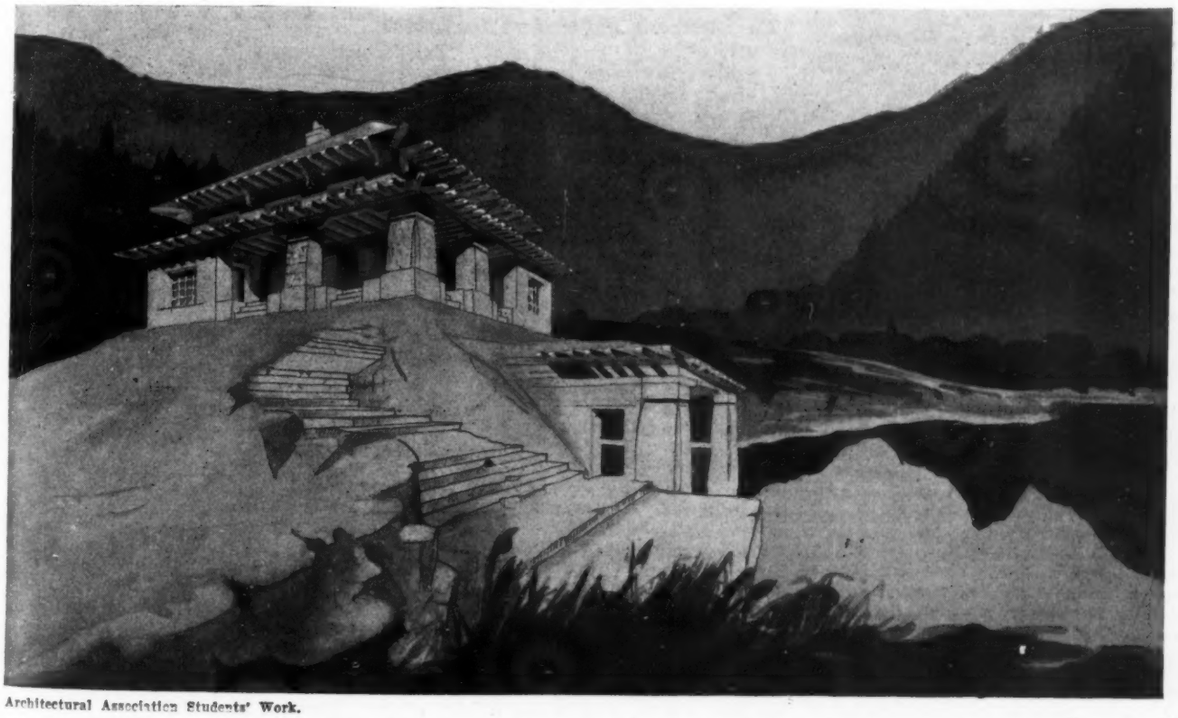
Mr. W. G. Newton, M.A., informs us that at the meeting of the Architectural Association on April 24, in speaking of the badly-designed cottages that had been erected by the Government in Ireland, he was referring to those built some time during the past century and not to any present scheme of settling ex-Service men on the land, as reported in our issue for April 29.

Cardiff Town Planning Scheme.

The Ministry of Health has approved of the application of the Cardiff Corporation for permission to proceed with a town-planning scheme over a large area to the south and west of the city. The scheme relates to an area of about 10,000 acres within the jurisdiction of the Llandaff and Dinas Powis Rural District Council. Most of the country between the Barry-Pontypridd railway and the present city boundary is in the scheduled area, and the powers already conferred upon the Corporation will enable it to continue its town-planning scheme across to the Llanedarne and Llanfedw boundaries on the east and northwards as far as the Caerphilly boundary, a total area of about 19,000 acres, including Ely, Caerau, St. Fagan's, Llaniltern, Radyr, Tongwynlais, Pentyrch, Llandaff, Whitchurch, Llanisehn, and Lisvane. The scheme will indicate where the main road arteries shall be, regulate the number of houses to be built per acre in different localities, indicate what districts shall be used for industrial developments and those that must be reserved for residential purposes, &c.

Maldon War Memorial.

A war memorial has been unveiled at Maldon, Essex, in the form of a cross, in Portland stone, about 30 ft. high. Each face of the octagonal base is enriched with Gothic panels. The heads of the panels are richly cusped, and each panel is flanked with buttresses terminating in crocketted pinnacles. There is a series of sunk mullioned panels having trefoil heads in the spandrils above the bays. Springing from the main base is a curved pedestal with moulded capping enriched with vine leaf ornament, and above this a crenellated and panelled pedestal. The shaft of the cross above terminates with a cross fleury. The sculpture was carried out by Messrs. Wray & Fuller, of Chelmsford. The architect is Mr. F. W. Chancellor, of Chelmsford



Architectural Association Students' Work.

A Gamekeeper's Cottage. By MR. H. A. SCOTT (Third-year Student).

[A preliminary sketch design which is later elaborated into working drawings and details. This subject is typical of early Third-year work in which no restrictions are made as to style or period in design.]

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ILLUSTRATIONS.

New Science Museum, South Kensington.

The new Science Museum, at South Kensington, now in course of erection, has been temporarily enclosed with lightly-constructed brick walling, rendered in cement. One of the galleries on the ground floor is at present being used in its incomplete state for Museum purposes, and other sections of the building are temporarily occupied by Government staffs.

The building, which is of reinforced concrete on the "Coignet" system, was carried out under the direction of Mr. R. J. Allison, O.B.E., A.R.I.B.A., Chief Architect to H.M. Office of Works, by Messrs. Leslie & Co.

Licensed House Competition.

This design was prepared for the recent competition arranged by the Royal Institute of British Architects. The design is a modern rendering in the style of English architecture of the later Georgian period, which would be maintained both internally and externally. The materials proposed were thin mixed reds with grey dressings, and a Portland stone lower story for the external walls, the roof being covered with pantiles. A feature is made of the angle entrance with sign over in wrought iron.

The design is by Messrs. F. E. Williams, A.R.I.B.A., and Alfred Cox, F.R.I.B.A., of 34, Henrietta-street, W.C. 2.

Architectural Association Students' Work.

We illustrate this week some recent work of the students at the Architectural Association Schools.

Discoveries of Frescoes in Rome.

An important artistic discovery has recently been made in the Palazzo di Venezia in Rome, says *The Times*. Old prints have shown the beauties of the Sala Regia and of the Sala del Mappamondo, of which their modern appearance gave no sign. After considerable research it has been found that behind the modern panels there were three other sets of panels. The first is a late Baroque decoration dating from the beginning of the eighteenth century; then come paintings in tempera from the time of Alexander VIII; and, lastly, frescoes of the Renaissance period. These frescoes run down the length of the Sala del Mappamondo behind six pillars, while the shorter sides of the Sala also have four pillars each. Behind the pillars are other columns, and from the pillars coats-of-arms are hung on red bands. The round, plastic appearance of the pillars and the metallic appearance of the coats-of-arms leave no doubt that they are the work of Mantegna and his closest pupils. In the Sala Regia, too, a remarkable architectural decoration, with columns, has been discovered. Above these pilasters runs a frieze of blue and gold, with 16 medallions of Roman Emperors. This work is attributed to Bramante, who was called upon to decorate the Sala Regia shortly after 1500.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

CONFERENCE AT LIVERPOOL.

THE following programme has been arranged for the Conference of the Royal Institute of British Architects, at Liverpool, on June 24 and 25:—

JUNE 24.—10 a.m., Official opening of the conference and reception by the Lord Mayor of Liverpool. 10.30 a.m. to 1 p.m., Papers, followed by discussion, on "The Unification and Registration of the Architectural Profession," "Official Architecture," and "Propaganda and Publicity." 2 p.m., Excursion to Port Sunlight and Bromborough Pool. 7.30 p.m., Banquet at the Midland Adelphi Hotel.

JUNE 25.—10.30 a.m. to 1 p.m., Papers, followed by discussion, on "Building Contracts," "Architectural Education," and "Present-day Building Problems." 2.30 p.m., Visits to Liverpool Cathedral and the Cunard Building. 4 p.m., Tea at the Britannia Café, at the invitation of Messrs. Willink & Thicknesse. 4.30 p.m., Trip up the river.

JUNE 26.—11 a.m., Service in Liverpool Cathedral.

The headquarters of the Conference will be in the Conference Room in the Walker Art Gallery, where there will be an exhibition of students' drawings on view.

Members of the Conference are requested to make their own arrangements for hotel accommodation. The hotels specially recommended are the Midland Adelphi, the Exchange, and the London and North-Western.

The Conference banquet, at which ladies are particularly invited to be present, will be held at the Midland Adelphi Hotel. The price of the banquet will be 12s. 6d. each, exclusive of wine and cigars.

Members who intend to be present at the Conference are requested to communicate as soon as possible with the Secretary, R.I.B.A., 9, Conduit-street, W. 1, mentioning whether they will be present at the banquet and whether they will be accompanied by any guests.

Notes from the Minutes.

The following notes are from the Council meeting held on May 23:—

SCALE OF FEES FOR HOUSING SCHEMES.—The draft agreement with the Ministry of Health was approved, and a vote of thanks was passed in favour of Mr. James S. Gibson and the other members of the deputation.

UNIFICATION AND REGISTRATION COMMITTEE.—The resolutions passed by the Unification and Registration Committee on May 12 were approved, and a Sub-Committee was appointed to enter into negotiations with the Council of the Society of Architects.

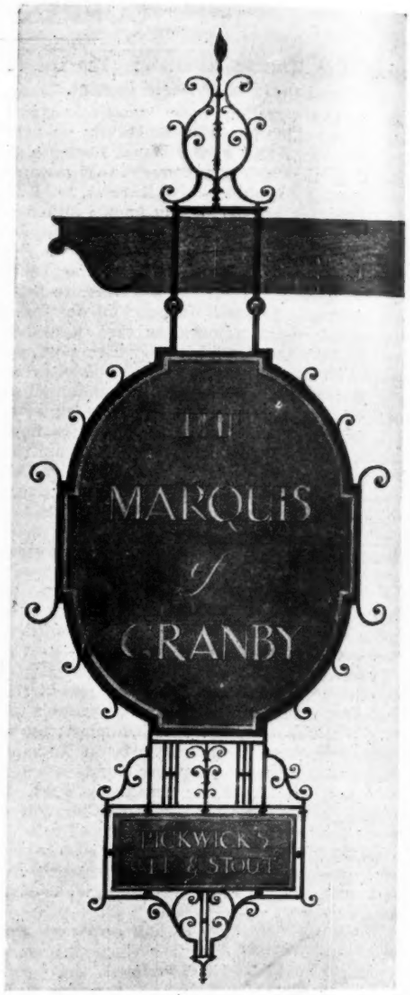
GRANTS.—The following annual grants were made:—Architectural Association, Ordinary Grant, £100, second instalment of grant of £500 to Endowment Fund, £125; Architects' Benevolent Society, £100; Atmospheric Corrosion Research, £10.

OFFICIAL ARCHITECTURE COMMITTEE.—The Committee's report was approved, and ordered to be printed in the *Journal*.

INDUSTRIAL COUNCIL FOR THE BUILDING INDUSTRY.—Mr. James S. Gibson was appointed to represent the architectural profession on the Administrative Committee of the Industrial Council.

Reception at Zoological Gardens.

On Tuesday, June 28, the President and Council of the Royal Institute will hold a reception and garden party at the Zoological Gardens, Regent's Park, from 4 p.m. to 7 p.m. The reception will be held in the Library of the Zoological Society from 4 to 4.30 p.m. The lawn and Fellows' tea enclosure will be reserved for the use of members and guests, and tea will be served there during the afternoon.



Design for Sign of Licensed House.
By MESSRS. F. E. WILLIAMS, A.R.I.B.A., and ALFRED COX, F.R.I.B.A.

MEETINGS.

SATURDAY, *June* 4.

Architectural Association.—Visit to Penshurst, Kent. Meet at Penshurst Station, 2.30 p.m.

Edinburgh Architectural Association.—Visit to Caroline Park and Granton Castle.

MONDAY, *June* 6.

Royal Institute of British Architects.—Business meeting for amendment of by-laws, election of members, Council and Standing Committees, and demonstration of the Casella machine for testing steel and other metals. At 9, Conduit-street, W. 1. 8 p.m.

TUESDAY, *June* 7.

Royal Institute of British Architects.—Meeting of Associates to discuss the proposed unification of the architectural profession (*see p.* 702). At 9, Conduit-street, W. 1. 4.30 p.m.

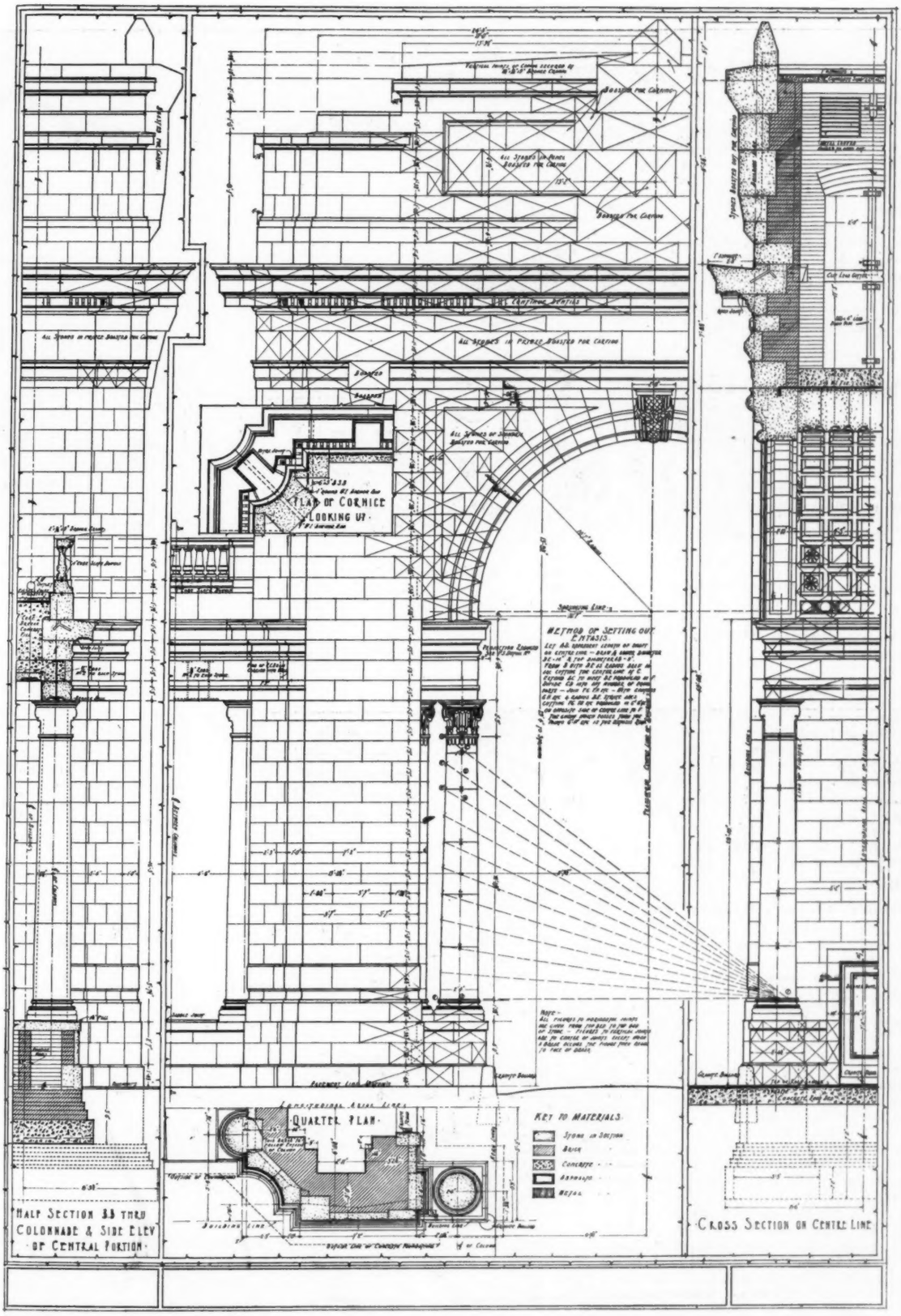
THURSDAY, *June* 9.

Royal Sanitary Institute.—Mr. J. M. Martin on "Public Health Development in Gloucestershire." At Guildhall, Gloucester. 10 a.m.

Royal Institute of British Architects.—Mr. H. S. Goodhart-Rendal on "Some Fashions in Architecture." At 9, Conduit-street, W. 1. 5 p.m.

Proposed New Reservoir.

The Metropolitan Water Board (Various Powers) Bill, which was considered by a House of Commons Committee on Tuesday, contains a proposal for the enlargement of the Littleton reservoir, near Walton, at an estimated cost of £11,281,000.

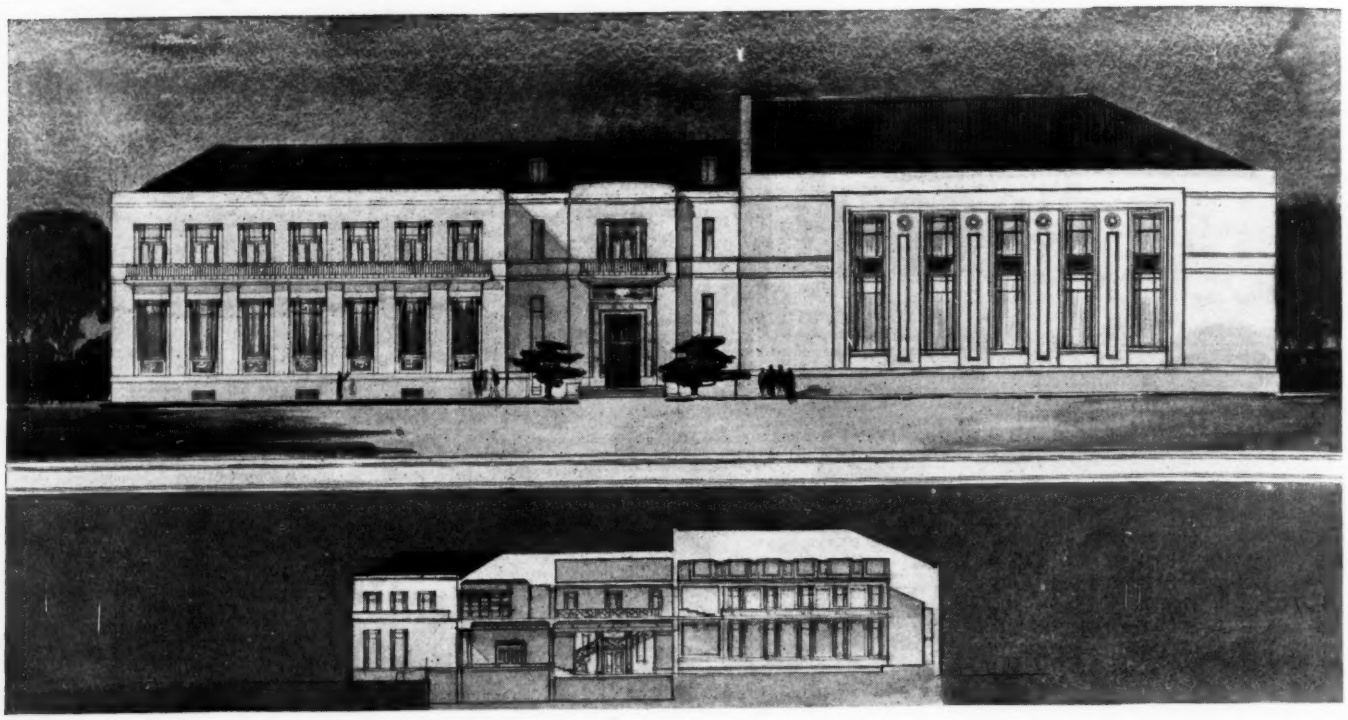

PLAN OF CORNICE LOOKING UP
METHOD OF SETTING OUT ENTASIS
QUARTER PLAN
KEY TO MATERIALS
HALF SECTION BB THRU COLONNADE & SIDE ELEV OF CENTRAL PORTION
CROSS SECTION ON CENTRE LINE

Architectural Association Students' Work.

Masonry Details for a Monumental Arch.

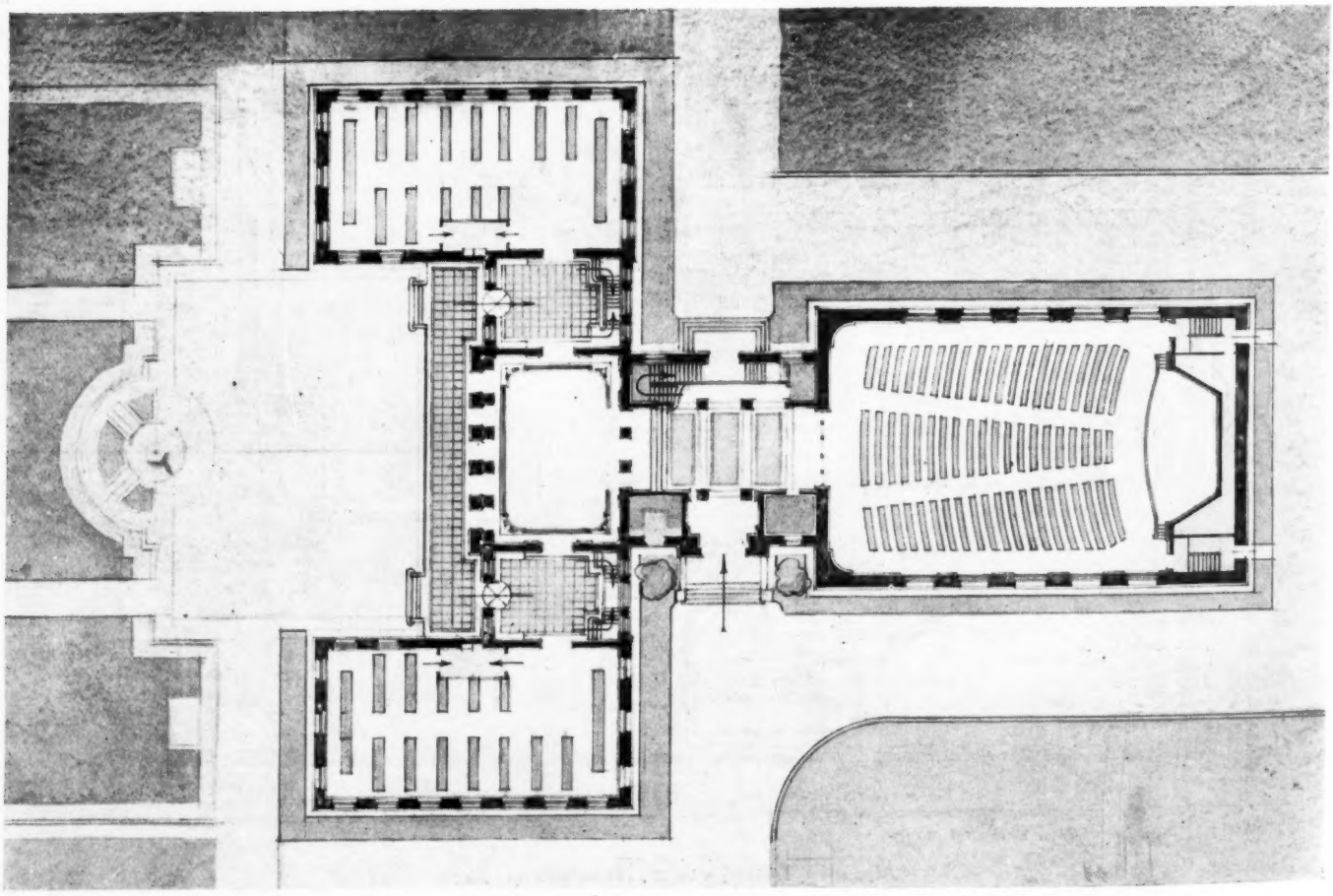
By MR. N. C. MACKEY (Fourth-Year Student).

[Working drawing of a design subject previously set. The problem was a proposed gateway to Regent's Park.]



Design for a Students' Club.

By MR. H. L. CURTIS (A.A. Atelier).

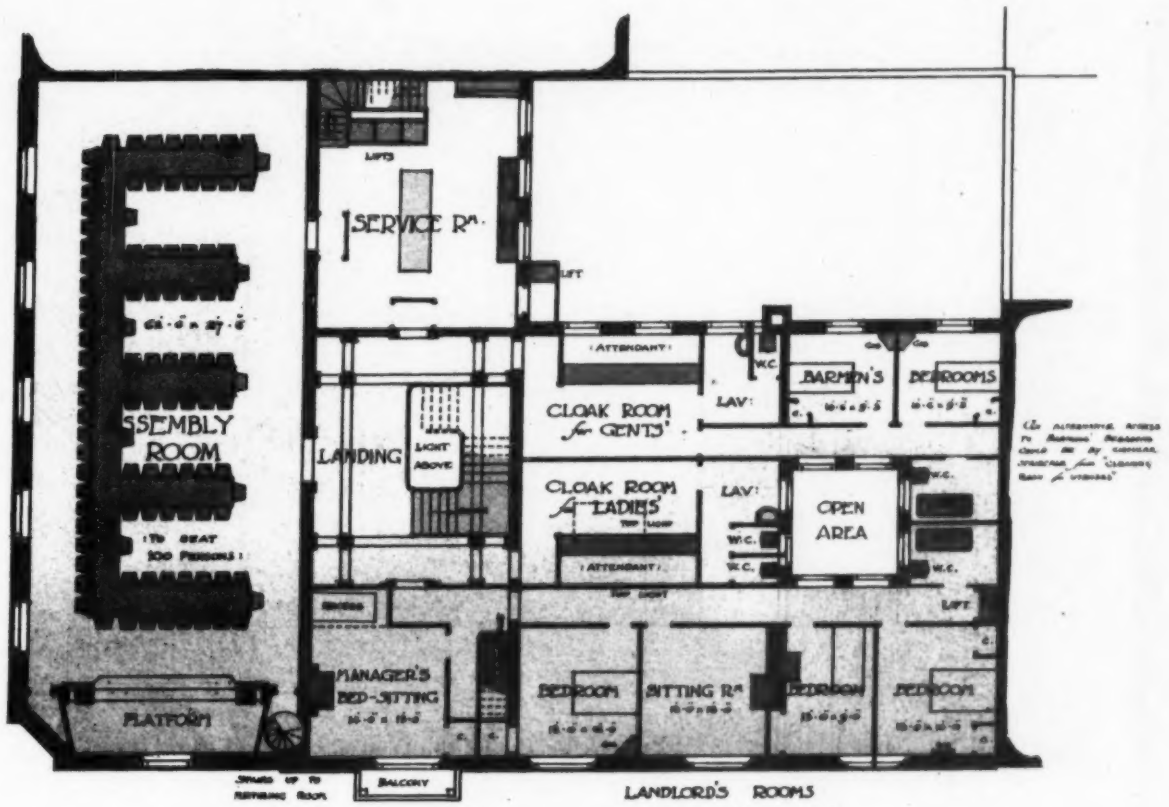


Architectural Association Students' Work.

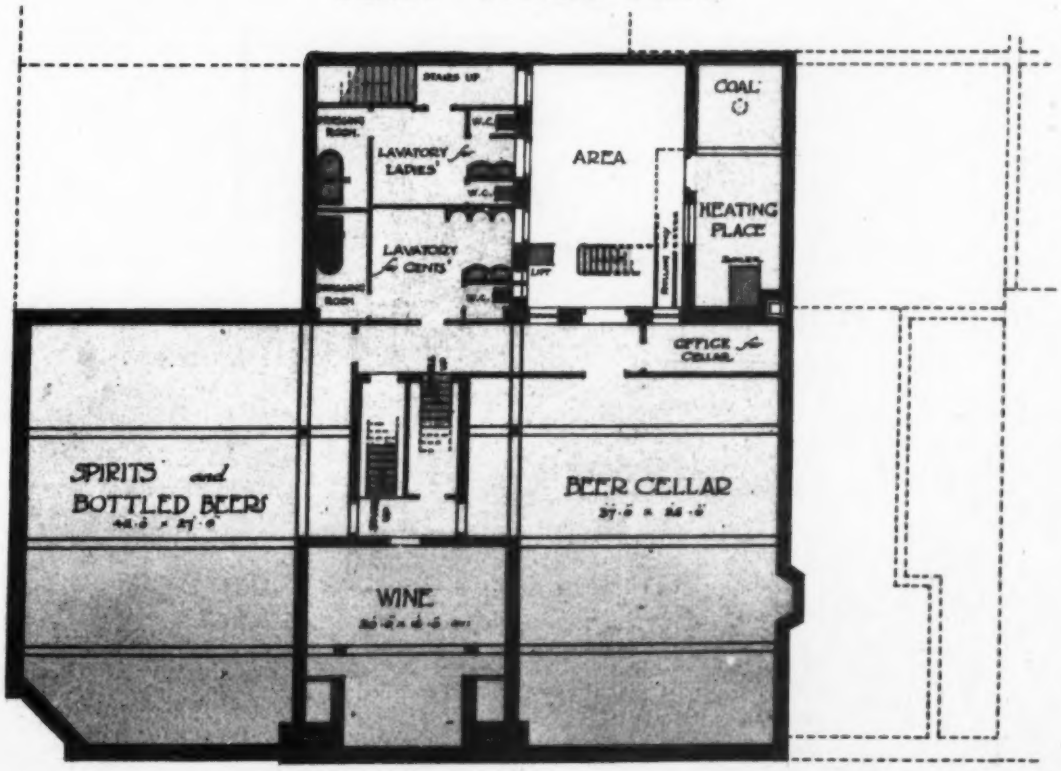
Design for a Students' Club.

By MR. H. L. CURTIS (A.A. Atelier).

[A typical Atelier monthly subject, worked out in the evenings under criticism from the Patron.]



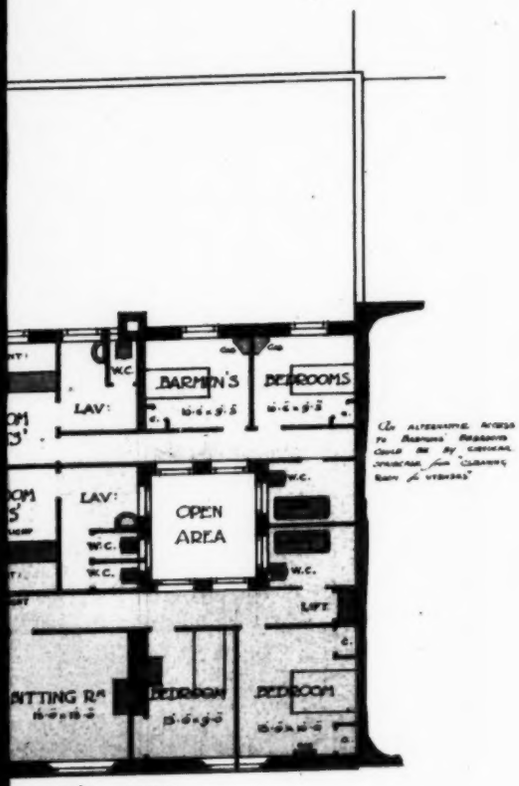
FIRST FLOOR PLAN



BASEMENT PLAN

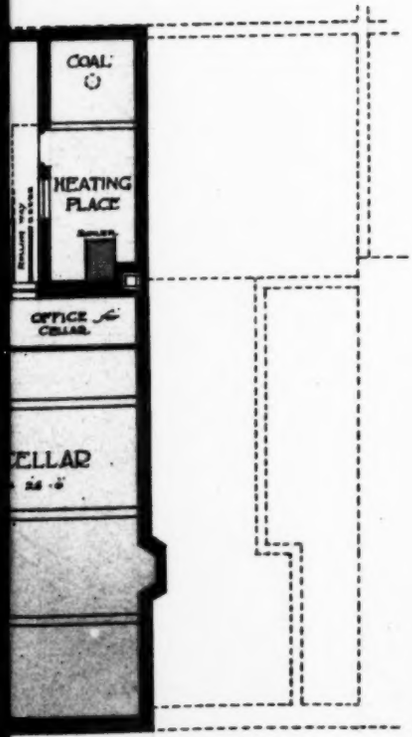
DESIGN FOR A LICENSED HOUSE.

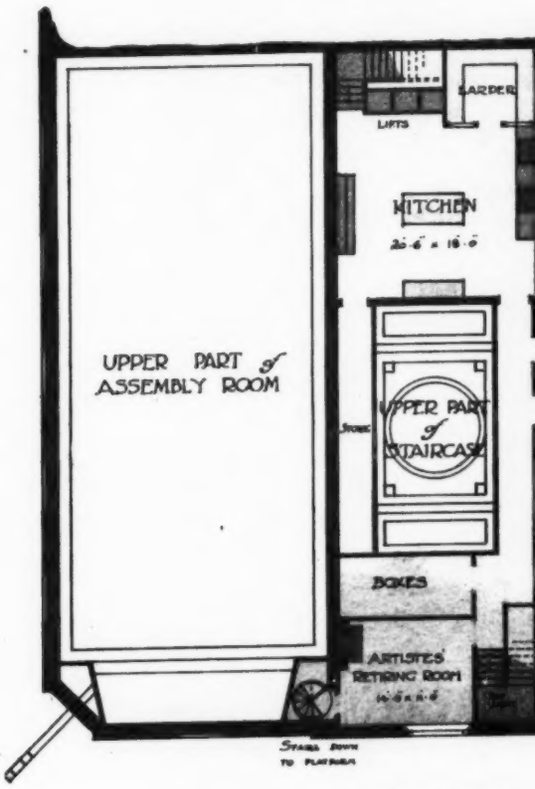
By Messrs. F. E. Williams, A.R.I.B.A., and Alfred



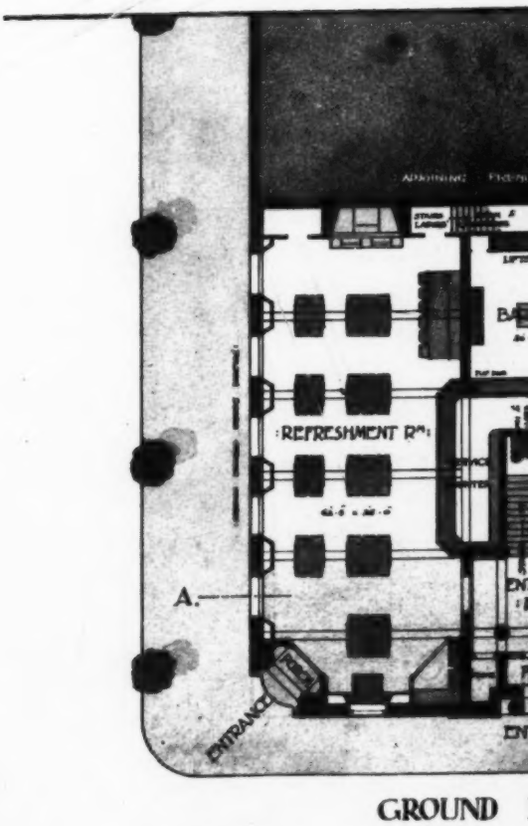
ANDLORD'S ROOMS

LAN





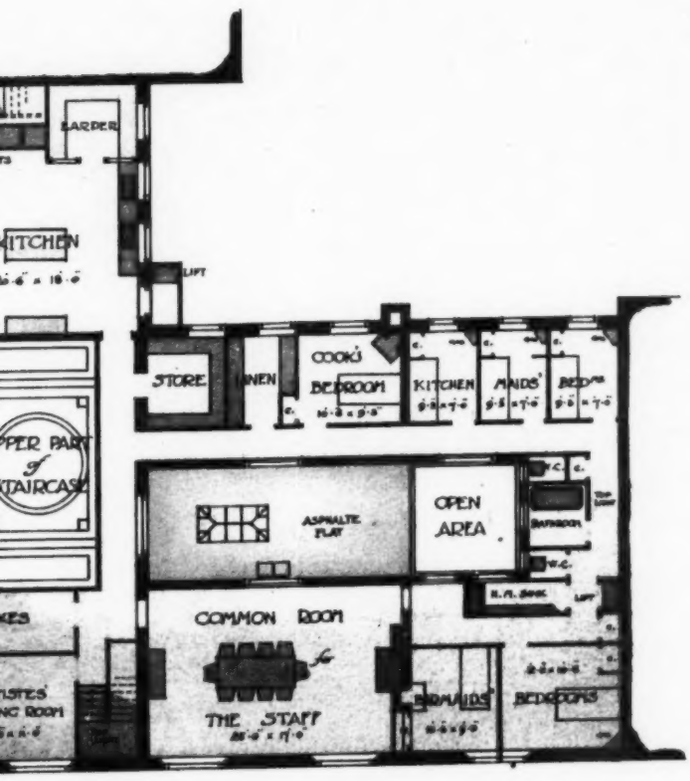
SECOND



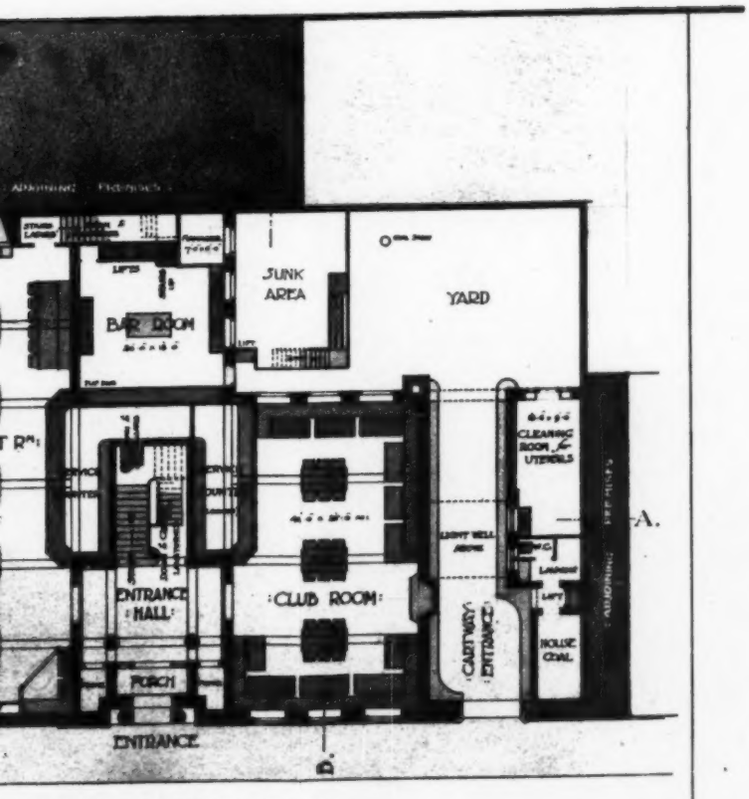
GROUND

DESIGN FOR A LICENSED HOUSE.

BY MESSRS. F. E. WILLIAMS, A.R.I.B.A., AND ALFRED COX, F.R.I.B.A.



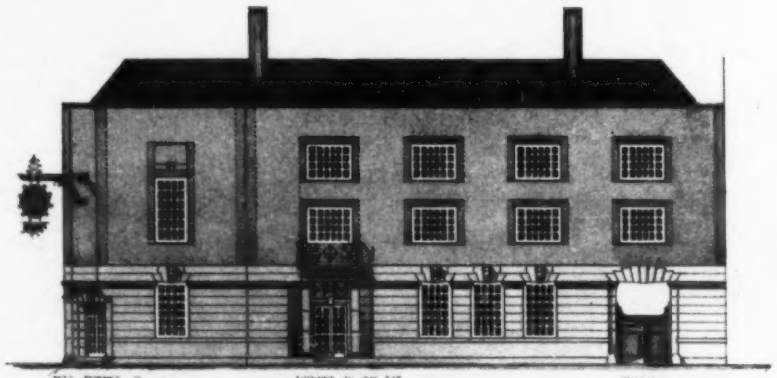
SECOND FLOOR PLAN



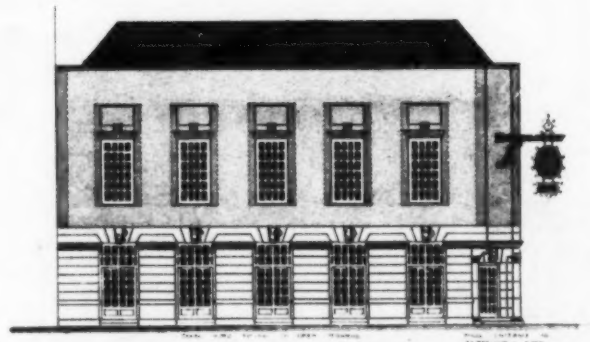
GROUND FLOOR PLAN

DESIGN for a LICENSED HOUSE

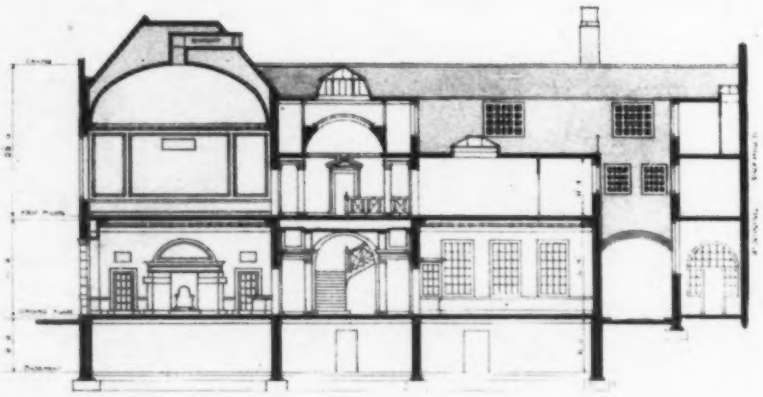
Scale 1/8 inch = Eight Feet



EAST ELEVATION
STREET B.



SOUTH ELEVATION
STREET A.

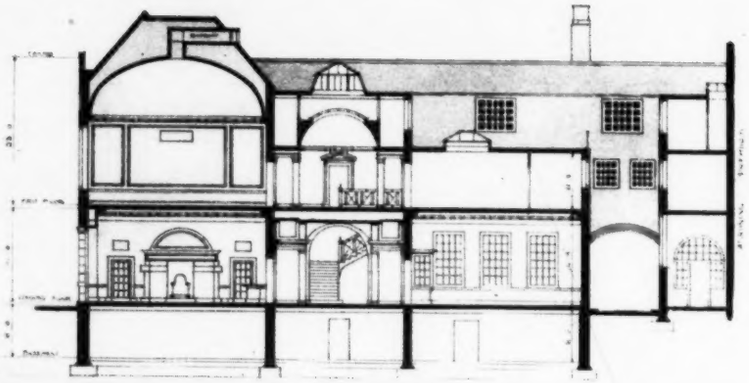


SECTION A.A.

SECTION B.B.

EAST ELEVATION

STREET B.

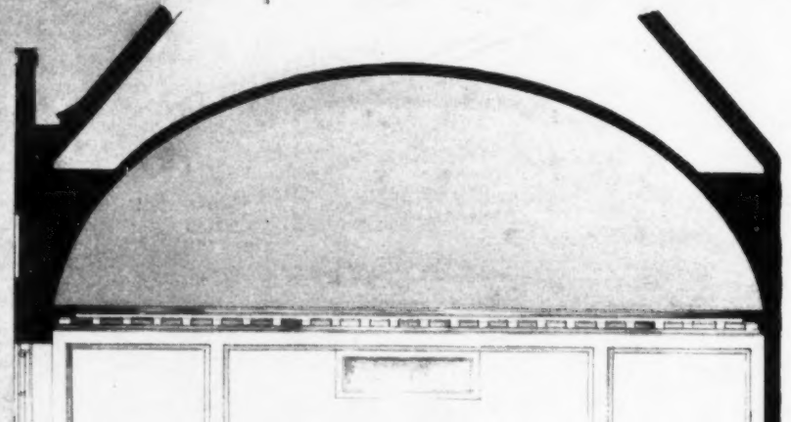


SECTION A.A.

SOUTH ELEVATION

STREET A.

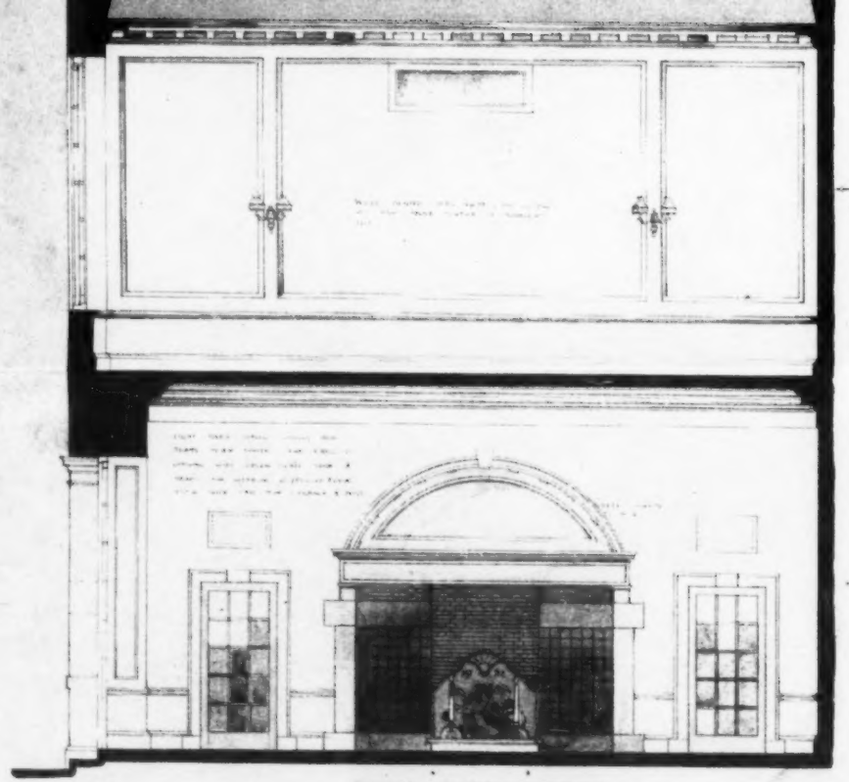
SECTION B.B.



DESIGN for a LICENSED HOUSE

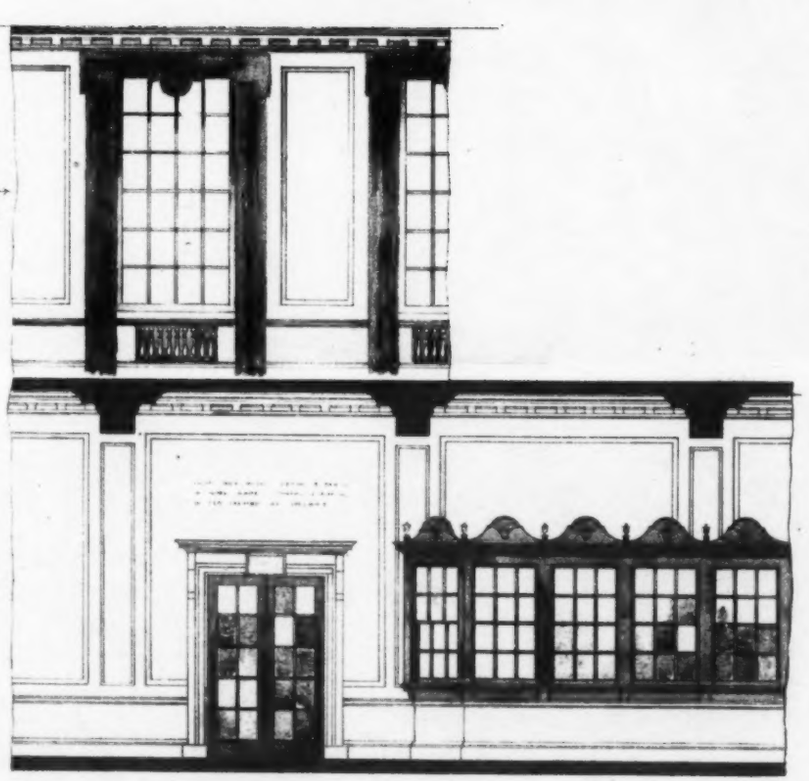
HALF INCH SCALE

THE BUILDER, JUNE 3, 1921.



REFRESHMENT ROOM

ASSEMBLY ROOM

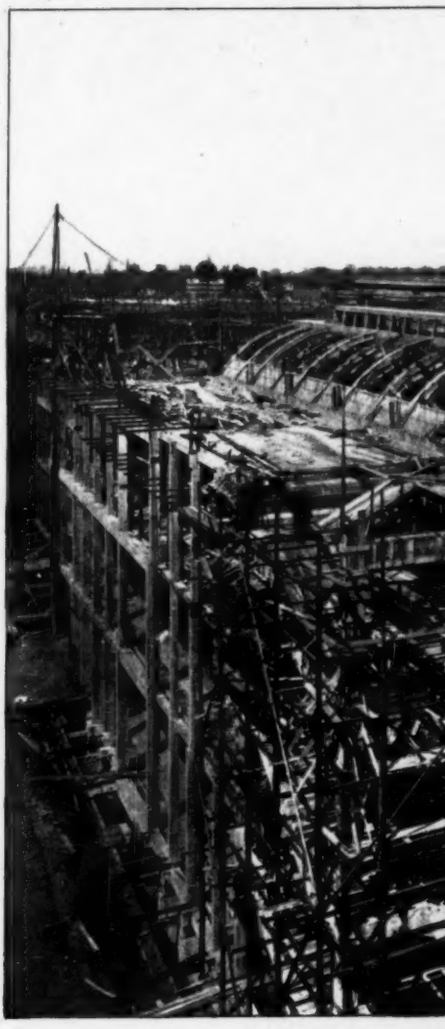


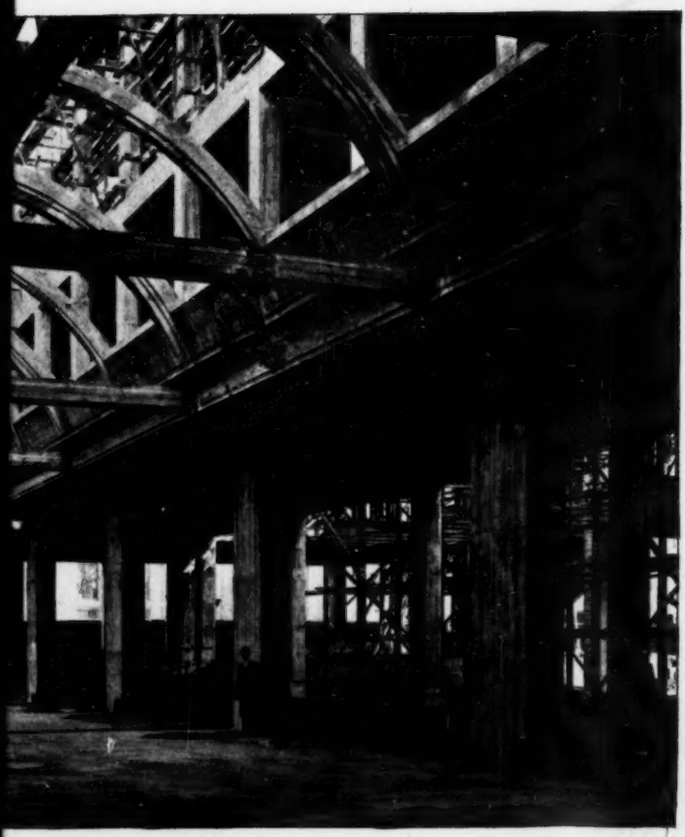
CLUB ROOM

DESIGN BY MESSRS. F. E. WILLIAMS, A.R.I.B.A., AND ALFRED COX. F.R.I.B.A.

NEW SCIENCE MUSEUM, SOUTH KENSI

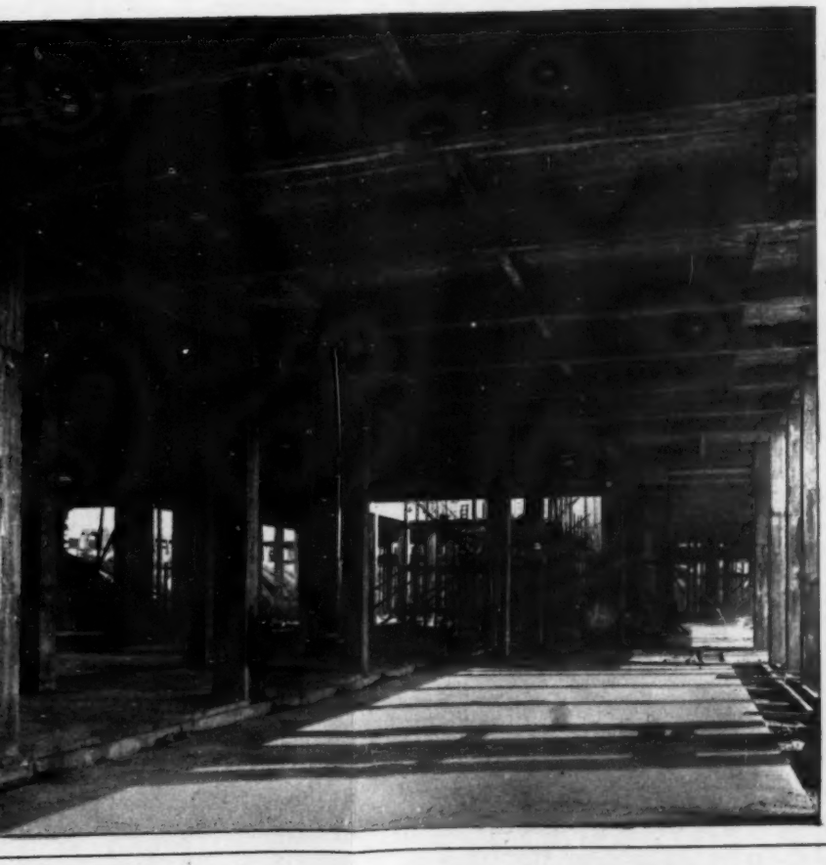
MR. R. J. ALLISON, O.B.E., A.R.I.B.A., CHIEF ARCHITECT, H

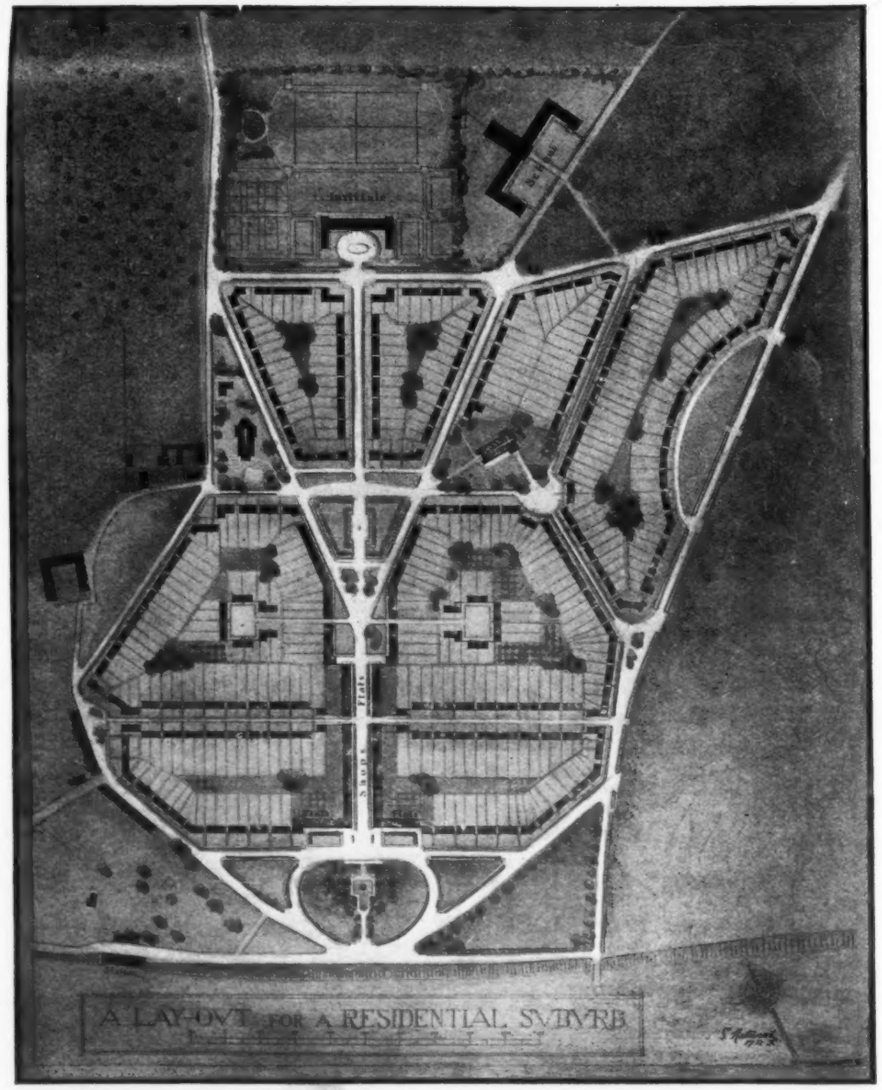




NEW SCIENCE MUSEUM, SOUTH KENSINGTON.

MR. R. J. ALLISON, O.B.E., A.R.I.B.A., CHIEF ARCHITECT, H.M. OFFICE OF WORKS.



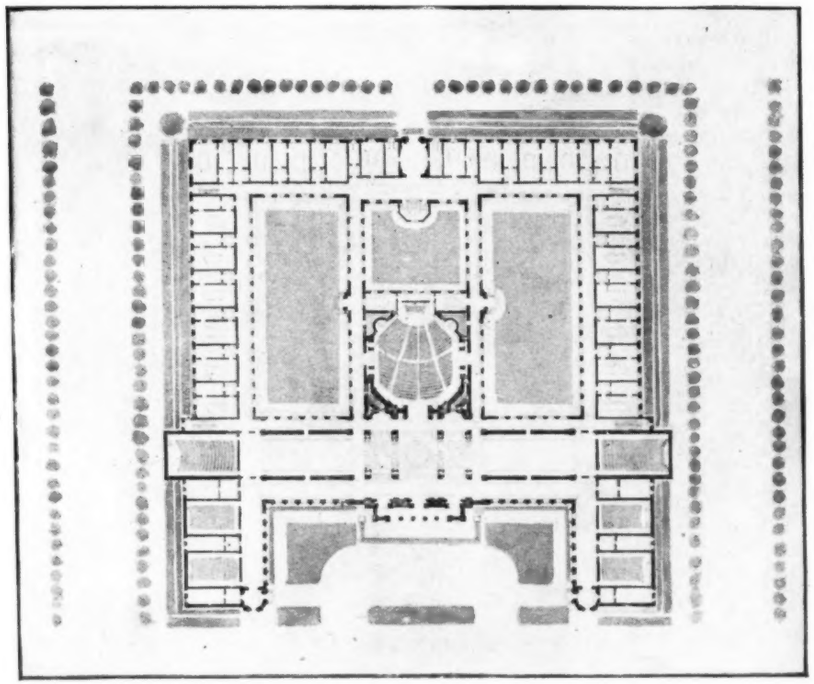


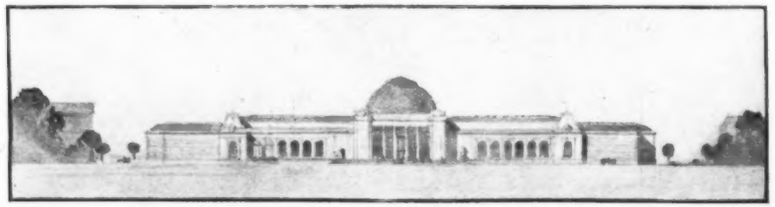
Architectural Association Students' Work.

Lay-out for a Residential Suburb.

By Mr. S. Natusch (Fifth-Year Student).

[A town-planning subject set in conjunction with town-planning lectures. The project was worked out upon the survey of an actual site, in order to give practice in dealing with actual conditions.]

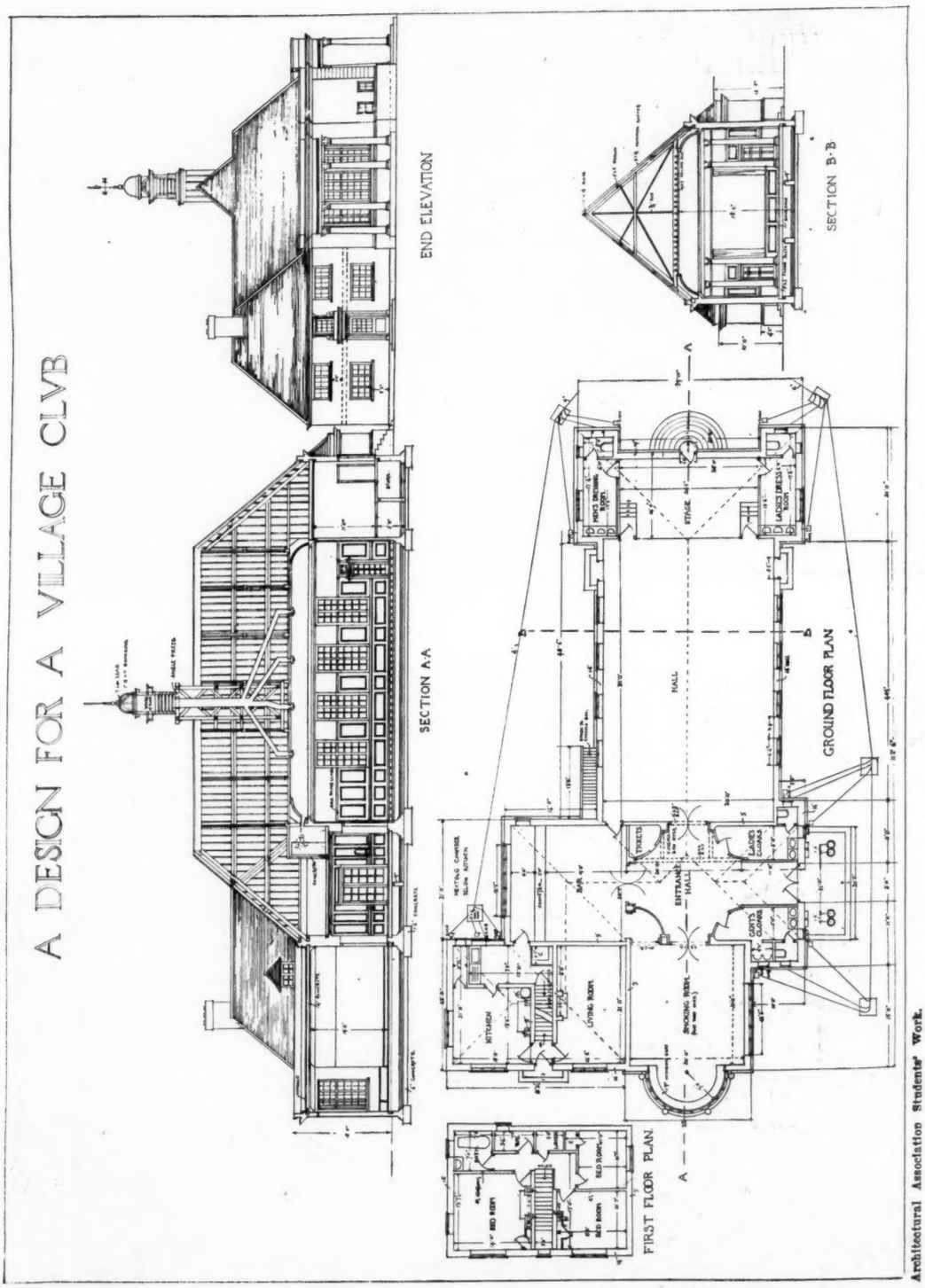




Design for an Institute of Arts and Sciences.

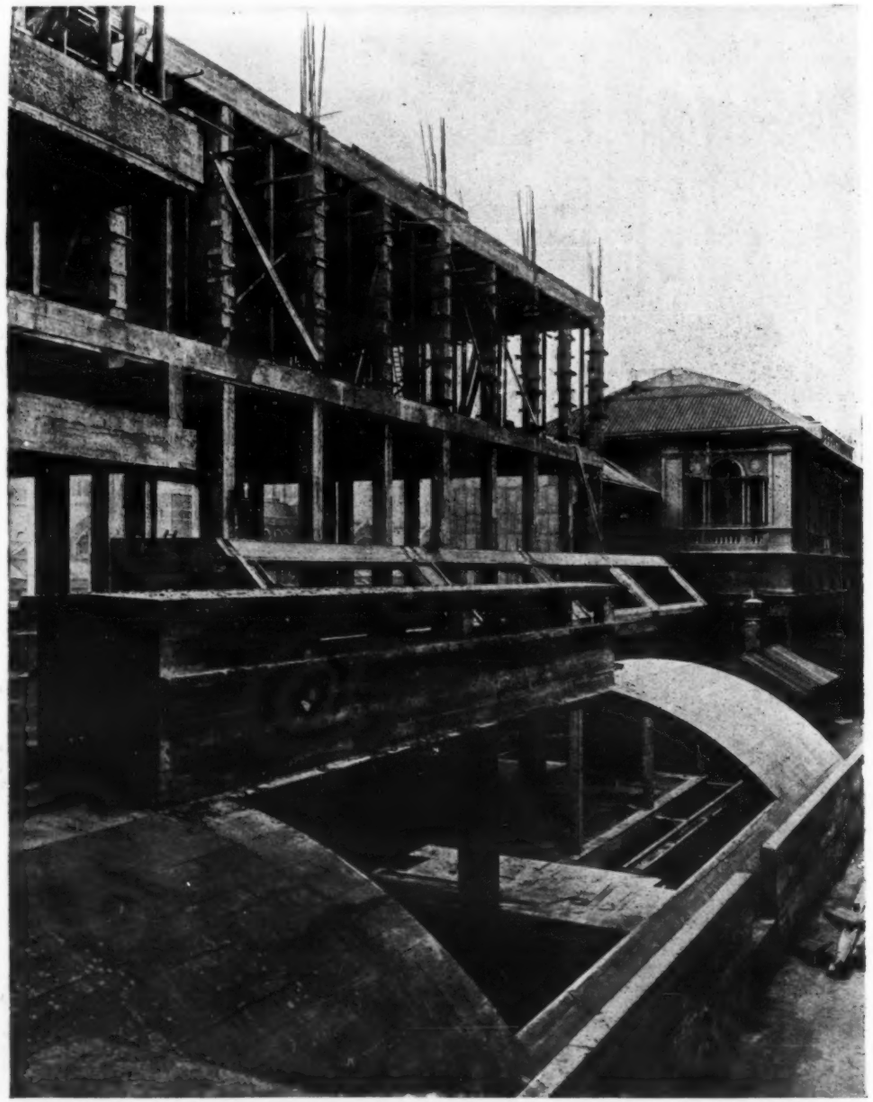
By Mr. L. S. Slaughter (Third-Year Student).

[Design set towards the close of the third year to give practice in grouping and massing.]

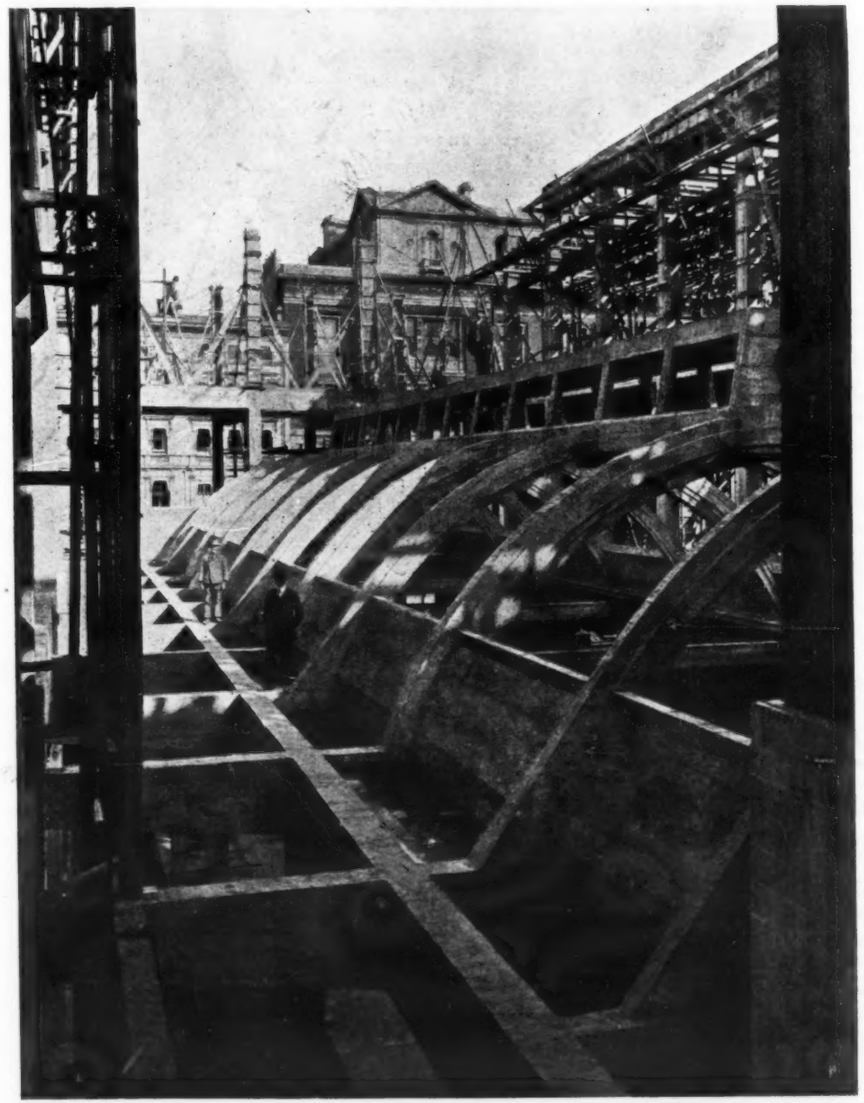


Second-Year Constructional Drawing (1920), By Miss E. COOK.

Architectural Association Students' Work.



PART OF FIRST FLOOR : FROM EAST.



ARCHED ROOF TO TOP-LIGHTED GALLERY, FIRST FLOOR : FROM WEST.

New Science Museum, South Kensington. — MR. R. J. ALLISON, O.B.E., A.R.I.B.A., Chief Architect, H.M. Office of Works. (*See p.* 710.)

MODERNISM AND DESIGN.—VI.

NATURE AND THE SOURCES OF DECORATION.

BY W. R. LETHABY.

WE have, I feel confident, given far too much thought to the decorative incidents of "architecture," and not enough to the body of building, organically sound and

FIG. 1.

sane. But only a sane mind in a sane body gives full architectural health. For myself, having regard to the special difficulties of the time, I wish we could concentrate on pure building for a generation. Then slowly, as we gained power and a sense of

FIG. 2.

order, new little frills of "ornamentation" would naturally come in.

The decorations of the past originated as magic marks and as playful additions of workmanship. Thus, of the latter, it is impossible to suppose that cooks could go on making pies for generations without taking to pinching and pricking and pressing the paste into patterns around the borders.

When once the custom of ornamentation has arisen it has, and always will have, three main sources of refreshment to draw on—Nature; Experiment with Elements; Variation of the Customary. I dealt with the second and touched on the third in my last paper; now the Nature source remains to be considered.

Distinct Nature loans to architecture have been much greater than is generally known—as in Egypt the lotus and palm columns and star ceilings; the Greek lily and acanthus capitals (Ionic and Corinthian: for the latter see the recent little book on Delphi), also palmettes, rosettes and egg and tongue patterns (the last being really a row of flower petals); again Gothic ornamentation generally.

The Nature source is obviously the most vital one, for beyond the common interest of ingenious workmanship there is, or should be, in decoration derived from Nature some-

FIG. 3.

thing beyond itself which is essentially poetical—that is, an appeal to human hearts; and ignore it as we may affect to do, that is the proper mission of decoration. I really do feel shy of saying this; to mention "heart," or even "human," in a modern school of architecture is so strange as to be almost indelicate. However, I commend the idea to some of our gifted young sketch writers to write on "Benevolent Ornaments." We understand satire, and the *idea* might thus emerge that there are possibilities in ornament beyond the vain oblations prescribed by the books on architectural ritual.

I give (Figs. 1 and 2) first sketches of two single leaves which would need but little editing to turn into ornamental elements. The upper half of 1, set upright, would make a palmette unit, or the whole repeated, reversing the curve alternately ~~~~ would form a running band. Fig. 2, slightly cleared out and making much of the turn-overs or of the "eyes" of the indents, would be ornamental enough. Three sketches of one violet leaf follow (Fig. 3); the next two sketches (Figs. 4 and 5) are attempts at "treatment" for relief, and not very successful, except that the last one (bottom of 5) by mere repeti-

FIG. 6.

tion and selection does reach a sort of ornamental result. Here we get back on "our own" near to the egg and tongue and

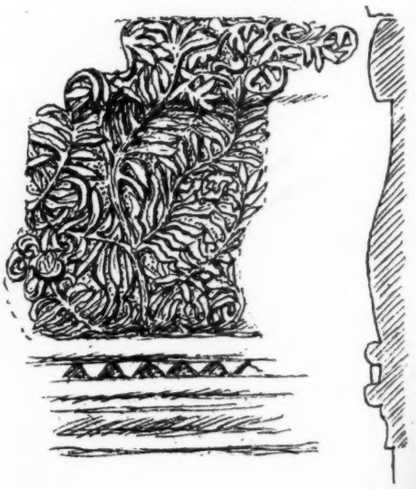


FIG. 7.

Lesbian leaf types, and organic revivification of those worn-out motives becomes an attractive task. Continued trying with an

FIG. 4.

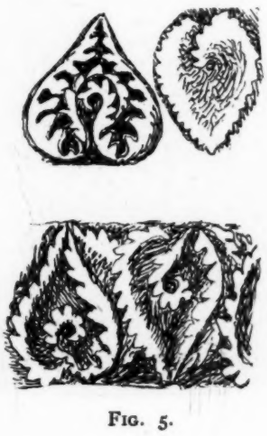


FIG. 5.

FIG. 8.

element usually brings out a possible result even when the first attempts have a poor, half-baked look. This reminds me that I was once apologising to a young student for trying to get her to make little experiments by variation, when she said: "I like it, every one makes me think of another"—quite a philosophy of "design."

Sketch 6 is from a piece of dry fern, and the next (Fig. 7) is what it made me think of as one repeat of a plaster frieze; even the profile was suggested by the turn-over of the top of the fern.

In these four examples the studies were "Nature drawings," and the ornamental adaptations were made afterwards. It is often the better plan, however, to "draw out" the decorative suggestion at once from Nature. Fig. 8 is a spray of thorn leafage only slightly modified to fit it for another plaster frieze. As Nature did it, not I, I may be permitted to say that that would be quite pretty running round a pleasant low room. Fig. 9 was drawn directly for use as painted decoration, the aim being to get even distribution all over. A whole interior might easily be covered with such foliage struck in boldly with a couple of tints on a dark ground. Fig. 10, a hedge seen against the sky, was also drawn from Nature, with some adaptations to fit it for a possible treatment of a wall surface. The lower part might be something like Fig. 9,

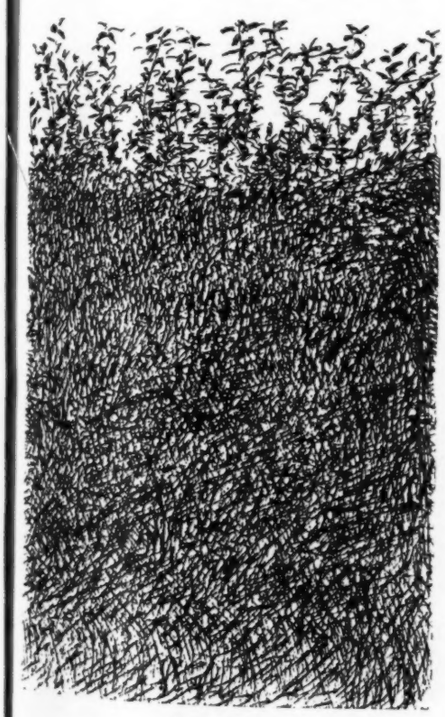


FIG. 10.

FIG. 9.

or even a flat tint. Or again, it would form the starting point for further variations: an open lattice pattern could be cast over it, or butterflies might be painted here and there, or touches of gold might add little gleaming points.

I now am only speaking of the possi-

FIG. 11.

bilities of a line of experiment, if at any time we were ready for a school of decorative art. My own doubt is that we are not ready, and that anything really human, pleasant and living would shock too many people for such things to be done, except very sparingly and with extreme caution. At this time our obvious duty is to concentrate on building and forego ornaments.

I have found that students are likely to see Nature with the water-colour sketcher's eye for blue distances, atmosphere and low horizons, and to be too confused to see the "ornament." One who hunts for decorations must see in another way, but not a less true way; he must look for construction, pattern, and that which will fill out the ground to be occupied in a big, simple way. In Figs. 11 and 12 I give portions of photographs (cut out of chance advertisements) to show what I mean in speaking of bigness and covering the ground. These are the sort of motives that the old tapestry designers made use of, and our ten thousand young painters, trained by the State to have nothing to do, could paint such things rapidly on walls, to our delight and their contentment and increase of power, if only there were any rational demand for human skill. As it is, the employing public has been persuaded by dull scholars and sharp dealers that what is "correct" and due evidence of fashion and dollars is a copy of the Villa Madama, or of Versailles, or of "that charming Jacobean house in *Country Life*." The truth is—these things are deep and hidden—any touch, individual, joyous and human, is instinctively felt to be out of place: it is the flavour of drudgery that is loved. The ideal of "architectural splendour" very largely comes to this—"Our money could buy all this slavery"! And the priests and professors love to have it so. Some day—in the millennium—we shall specify "allow £20 prime cost for joy and jokes and freedom." How absurd it is that it should sound absurd; and yet decoration ought not to be a misery.

I believe I have mentioned before that the most beautiful room I have ever found

FIG. 12.

myself in was one at Padua, having the walls painted with a set of landscapes. A charming little London room painted with formal landscapes about 1680 (by Robinson, a member of the London Gild of Painters, when London decorators were painters indeed) is preserved in the Cass Institute, Mile End-road. Recently, I believe, Mr. Geo. Clausen has painted an interior. To make an end, I would again recommend anyone interested in the possibilities of decorative art to go and look at Mr. Cayley Robinson's wall paintings in the Entrance Hall of the London Hospital, Goodge-street—just walk in and see.

The Great West Road.

The Great West Road, now being constructed by the Middlesex County Council, was designed, and has so far been built, of a uniform width of 80 ft. In view of the importance of this arterial road, and of the fact that other such roads are now being made much wider, the Ministry of Transport has approved of the width being increased to 120 ft. The extra cost involved is £71,000, of which the County Council will provide £17,750 and the Ministry £53,250. The Middlesex County Council has also agreed to extend the Cambridge arterial road in the district of Tottenham, from Lordship-lane to Downhills-road, at a cost of £45,490, subject to the Ministry of Transport contributing 50 per cent. of the cost.

South-Eastern Union of Scientific Societies.

The twenty-sixth annual congress of the South-Eastern Union of Scientific Societies will be held at Reading on June 8, 9, 10, and 11, under the presidency of Sir Edward Brabrook, C.B., F.S.A. The programme includes several visits to places of architectural and archæological interest in the neighbourhood of Reading. Further particulars and tickets may be obtained from the Honorary General Secretary, Mr. H. Norman Gray, 334, Commercial-road, E.1.

THE SURVEYORS' INSTITUTION.

ANNUAL REPORT.

THE annual general report of the Surveyors' Institution, submitted at the annual general meeting on Monday last, states that the Council has drafted amendments to the Charter and by-laws necessitated by the adoption of the recommendations of the Special Committee which had been set up to consider and report on the future activities of the Institution, in the hope that the required sanction might be obtained in time for the election of the new Council during the present year. The legal formalities in connection with the application to the Privy Council and the agreement with the Quantity Surveyors' Association with regard to the proposed amalgamation had taken longer than was originally anticipated, and were completed only in March last, and a further meeting was held for the purpose of giving members an opportunity of expressing their views thereon.

MEMBERSHIP.—There has been an increase of 227 in the total number of members. Students now number 205, compared with 132 in 1920. The Council attaches great importance to young men about to enter the profession having a sound general education, and urges members to impress the desirability of this upon the parents of those who will enter their offices as pupils or assistants.

THE COUNTY BRANCHES.—The most important departure in connection with the county organisation which has taken place for many years has been the extension of the system to the Metropolis, three County Branches, entitled the North-West London Branch, the London (South-Western) Branch, and the City and Eastern London Branch having been set up during the year. The inclusion of London in the county organisation was necessitated by the changes in the method of nomination for election to the Council proposed under the new draft By-laws; but apart from this the Metropolitan Branches will fill a useful place by enabling the views of London members to be obtained on legislation and other proposals affecting the profession, and by enabling them to take a more active part in connection with domestic matters and the administration of the affairs of the Institution. More frequent and less formal meetings between members for the discussion of subjects of professional interest can, in the opinion of the Council, be only productive of good.

PROFESSIONAL REGISTRATION.—The question of the registration of the profession has for a considerable time been engaging the attention of the Council, which recognises how vitally it affects the future of the profession. There is considerable difficulty in obtaining legislative sanction to such proposals, especially in the present congested condition of Parliamentary and Departmental business, and the Council has been conferring with other professional bodies in an endeavour to arrive at a decision whether joint or individual action would be most likely to prove successful in securing the statutory protection which practically all professions, except those already protected by Acts of Parliament, are now desiring to obtain. In any event it will not be easy to pass legislation of the character required through Parliament, and it must necessarily be a matter which will take time. Meanwhile the Council draws the attention of members to the protection they already receive under the Charter and by-laws by the authority they derive therefrom to use the designation "Chartered Surveyor." The use of a similar designation by members of another professional society has proved of the utmost advantage to them, and the Council urges that a similar advantage might attend its more general use by members of the Institution.

FEES.—The Council has received many complaints of the inadequacy of surveyors' fees as taxed in the High Courts, and has for long been endeavouring to secure improvement in this respect. In December last representatives of the Institution were given an opportunity of placing their views in person before the Senior Master in Lunacy, and as a result a substantial increase in the fees allowed by the Court has been made. A conference with the representatives of other professional bodies interested was held on the subject of the fees to be allowed by the Minister under Section 21 of the Agriculture Act. Substantial agreement was arrived at, and the Council has since submitted its views thereon to the Ministry. The question of the fees which should be charged in respect of work done in connection with the preparation and service of notices under the Rent Restriction Act, 1920, was also considered by the Council, and a circular was issued to members indicating the charges which might properly be made in that respect. The taxation of woodlands has again been under consideration by the Council, more particularly in connection with the prejudicial effect on planting of the burden of heavy taxation.

THE NEW PRESIDENT.—Mr. H. Sabin was elected President for the ensuing session.

Annual Country Meeting.

The arrangements for the country meeting of the Surveyors' Institution, which will be held at Norwich on July 7 and 8, have now practically been completed by the local committee. They include on the first day a civic reception by the Lord Mayor of Norwich at the Guildhall, followed by addresses by Mr. F. Leney, Curator, Norwich Castle Museum; and Mr. A. E. Collins, City Engineer. After luncheon, visits to the Cathedral, under the guidance of the Dean of Norwich (Very Rev J. W. Willink), and to the works of Messrs. Boulton & Paul, Ltd., have been arranged. The Institution dinner, to which a number of representative guests are being invited, will be held in the evening at the "Maid's Head" Hotel. On the second day members will travel to Hillington Station, whence they will be conveyed by char-a-banc to Sandringham. His Majesty's live-stock farms, the gardens, church, &c., will be visited, luncheon being served in the Park House grounds and tea at Wolferton Club. The train will then be taken at Wolferton for King's Lynn, enabling members to catch the London and other connections. It is understood that, in the event of the present coal difficulties being settled during the next two or three weeks, the ordinary train service will be resumed by the date of the meeting.

[The result of the Scottish Examinations of the Institute are given on p. 708.]

New Building for the Port of London Authority.
MR. EDWIN COOPER, F.R.I.B.A., Architect. (*See p.* 702).
[Showing scaffolding under dome in the centre of the building. Diameter, 107 ft.; Height, 80 ft.]

BOOKS.

The Law and Practice with Regard to Housing in England and Wales. By SIR KINGSLEY WOOD, M.P., Solicitor of the Supreme Court. London: Henry Frowde and Hodder & Stoughton. Price £2 2s. net.

This volume is a compendium of the statutes and orders relating to housing, town-planning, &c., and as the legislation on this subject is correctly described by the author as "voluminous and almost chaotic," apart from any merits of the work itself persons having to grapple with the problems involved will be glad to have all the necessary material gathered into one volume in excellent print and with a copious index. There is a brief preface or foreword of about a page by the late Minister of Health, Dr. Addison, and an introductory chapter by the author, followed by the main text of the work, which, including the appendices, runs to some 738 pages.

The author approaches his subject by considering it under three headings, suggested by the first three parts of the Housing of the Working-classes Act, 1890: (I), Unhealthy Areas; (II), Unhealthy Dwelling-houses; and (III), Town Planning. The introductory chapter is helpful in briefly reviewing the course of the legislation, and, as there are seven Acts printed in the volume or referred to affecting housing and many Acts are indirectly connected with these statutes (the Table of Contents shows that thirteen Acts are printed in all), such assistance is certainly needed. The list of official publications, statutory orders, &c., at the commencement of the work occupies over eight pages. In the introductory chapter it is interesting to find it stated that the idea of a Government subsidy for housing is not a new one, for in Ireland, up to 1914, 52,000 cottages had been built by local authorities at a cost of £8,500,000, and there was an annual loss upon them. Other local authorities elsewhere had also been subsidising housing out of the rates, for out of forty-two villages thus favoured there was a loss to be met by the ratepayers in respect of twenty-one. The author gives the latest figures as to housing as follows: Some 800,000 houses are required at the present time; much of the land required has been already acquired; during 1919 sufficient land, reckoning ten houses to the acre, had been acquired for 600,000 houses; to November, 1920, 52,857 houses had been commenced by local authorities and 28,000 by public utility societies and subsidised private builders; on December 1, 1920, 16,187 houses had been completed, of which 11,122 were provided by local authorities and public utility societies and 5,065 under the private builders' subsidy scheme. We give these figures as, coming from such an authoritative source, they may be of interest, but it must be observed that the progress seems slow towards attaining the desired end, and that the private builders come out very favourably as compared with the local authorities when it is remembered that assistance was offered to local authorities some six months at least before grants to private individuals were inaugurated.

Before passing from this subject, we may, however, point out that progress in building seems to be becoming accelerated, for on November 1 the number of houses built by local authorities and utility societies is given as 9,171, including 424 flats, but excluding converted Army huts, and 3,106 by private builders under subsidy. There may, of course, be other causes for the greater proportional advance in privately-built houses compared with the figures given above for December, but these statistics again show the private builder to advantage.

We spoke of this work as a compendium of the statutes and orders rather than as a legal text-book, and we were rather constrained to say this by the absence of any table of decided decisions in the law courts. A good many decisions are, however, included in the text, and we venture to suggest that the value of the work would be enhanced by the inclusion in subsequent editions of a table of cases. As it is, this is a volume which will commend itself to all who have to deal with the complex subjects it embraces.

Dr. Addison, in his preface, says it would obviously be impossible for him to express agreement with all the opinions—legal or otherwise—which the book contains, but this must not lead anyone to think he referred to controversial subjects, for he also states that controversial subjects have been avoided. This is absolutely the case, as the volume is nothing but a straightforward guide to the intricacies of the legislation affecting the subjects of which it treats.

The Priory and Manor of Lynchmere and Shulbrede. By ARTHUR PONSONBY. Taunton: The Wessex Press. Price, 21s. net.

The Priory of Wlenchmere, or Lynchmere, in Sussex, to which was added the name of Shulbrede, was founded and built about the year A.D. 1200 by Ralph d'Arderne, who became its first prior. It belonged to the order of the Canons regular of St. Augustine. In 1237 the Priory passed to William de Percy, who presented the Priory with a mill at Coultershaw in Sussex, which continued in the possession of the Priory right down to the dissolution. William de Percy belonged to the family of the Percys of Petworth, who afterwards became Earls of Northumberland; afterwards it passed to the Wyndhams, Earls of Egremont. The Priory, though small (supporting only some five canons), had possessions scattered over nineteen vills in the county of Sussex. The author gives a list of patrons and owners from *c.* 1190, and also of priors, and some of the canons so far as they are known. At the dissolution in 1537, the Priory and the greater part of its possessions in land and buildings were granted by charter of Henry VIII to Sir William Fitzwilliam, afterwards created Earl of Southampton, from whom it descended to the Montagues of Cowdray; and by purchase, in 1843, became the property of the Earl of Egmont, from whom the author purchased the property in 1905.

After the dissolution the materials from the buildings, as so often happened, were taken away, and some re-used in buildings in the locality. A moat originally surrounded the Priory, and still exists on the west side and partly on the south and east. It occupied about four acres of ground. Two thirteenth-century culverts also exist on the south and west, carrying the road by which the building is approached. The author does not think a gatehouse ever existed, but the will of one Richard Thorne, who was living in the Priory in post-dissolution times (1563–1588), leaves the use of the gatehouse to his wife for life. Illustrations given in the book taken from old prints, including Grote's "Antiquities" (1782), the *Gentleman's Magazine* of 1799, a late eighteenth century print, and one from Rouse's "Beauties of Sussex" (1825) show the remnant of building existing in those days, and which, with the addition of a modern wing, show the building much as it exists to-day. The book gives a conjectural plan of the buildings and also drawings showing fragments of a fifteenth-century stone screen, parts of some of the earlier arcading, and part of a floreated cross, as well as examples of tiles which have been dug up on the site. Illustrations are also given of parts of the frescoes in the prior's chamber, which still exists. The Priory lies about half-a-mile distant from the church and common of Lynchmere, amidst quietly-beautiful surroundings. The view from the churchyard of Lynchmere is one of the finest in Sussex. The book is well illustrated, and there are some good line drawings by the author showing various features of the building. There are also illustrations in the book showing some of the older houses and cottages, such as "Bridge," "Covers," and "Highbuildings," built into which are doubtless some of the old stones taken from the Priory buildings. The author has performed a labour of love in publishing his researches extending over a period of some seventeen years of one of our smaller and little-known manors and priories.

Oil Firing for Kitchen Ranges and Steam Boilers. By E. C. BOWDEN-SMITH, M.I.Mech.E. London: Constable & Co. Price 9s. net.

This little book of one hundred pages is written by an engineer who has had experience of oil as fuel in the difficult conditions prevailing in Egypt during the war. Any information likely to increase our knowledge of oil burning merits careful attention, not merely at the moment but because the burning of raw coal is wasteful, and never so wasteful as in a kitchen range. The author's method of burning by atomizing the oil—blowing it into fine particles by compressed air—seems to have been very successful in the cases he has engineered, and the running cost is about half that of coal. His burner is simple in construction and operation, but, though this form or combustion should appeal to steam raisers and to progressive institutions with large kitchen demands, we imagine the householder will require something still simpler. We do not like the necessity for heating the crude oil before use, and compressed air is not readily arranged for, though this can be effected through water service. One thing the author is silent upon is whether this form of combustion is unduly noisy. However, we applaud his line of research, which it is to be hoped he will prosecute. As he says, much cost in transport and handling is saved by oil, which is also cleanly and readily controlled and gives greater thermal efficiency than coal. We commend the book to progressive heat users, especially users on a large scale.

Reinforced Concrete Calculations in a Nutshell. Edited by JOSEPH T. PIGGOTT. London: E. & F. N. Spon, Ltd. Price 3s. 6d. net.

The practice of architecture tends to become ever more specialised and more complex, so that the practitioner is compelled to rely more and more upon the specialist or, in more simple cases, upon formulæ, the origin of which he may once have known but has since, in all probability, forgotten. A criticism that is levelled from time to time against the system of architectural and other technical examinations is that it compels the candidate to fill his mind and burden his memory with facts, figures, and formulæ; whereas a better equipment for his subsequent career would be to encourage him to know exactly in what place or in what book of reference he may find the exact information that he requires. In fact, he should learn how to save himself unnecessary labour. It may be said that this is the object of Mr. Piggott's book, in which he has collated and brought together various information in connection with reinforced concrete calculations.

The first part of the book deals with the L.C.C. regulations for reinforced concrete. The next section comprises a series of rules which have been reduced to the utmost simplicity for calculating the chief dimensions of, and the main reinforcements for, beams, slabs, columns, and bases of columns. This is followed by a series of stress diagrams and formulæ, and, finally, there are a few useful tests for cement suitable for reinforced concrete. It must not be supposed that this list is a comprehensive account of the contents of the volume. Interspersed are various useful tables, including permissible loads for columns with fixed ends, and weights of materials. Altogether it may with justification be said that the book renders in a concise and expeditious manner valuable service to those whose work brings them in touch, either constantly or occasionally, with reinforced concrete calculations. It is in no sense a text-book for the beginner, for it presupposes a theoretical knowledge and a familiarity with technical terms — the slide-rule is an aid to calculation, not a substitution for mathematical knowledge.

Devonshire House Gates.

It is reported that the iron gates of Devonshire House in Piccadilly have been bought by the Office of Works and will be preserved for the nation. The gates will be taken down shortly and will probably be re-erected in the Green Park towards the end of the year.

HOUSING AND TOWN-PLANNING NOTES.

WEEKLY HOUSING RETURN.

Progress of housing schemes up to May 20:—Tenders submitted, 180,749 houses; tenders approved, 173,616 houses; signed contracts, 164,447 houses; schemes on which work has been started, 103,734 houses.

Schemes dealt with during the fortnight ended May 20:—

TENDERS.

Region.	Number of Houses. Submitted.	Approved.
A	38 ..	—
B	335 ..	6
C	350 ..	144
D	457 ..	92
E	288 ..	288
F	185 ..	185
G	122 ..	142
H	39 ..	5
K	276 ..	132
L	77 ..	10
M	52 ..	3
N	64 ..	—
Total	2,283 ..	1,007

CONTRACTS SIGNED.

Region.	District.		No. of Houses.
A	.. Wallsend	Urban ..	22
	.. Holme Cultram	,, ..	6
B	.. Golcar	,, ..	16
	.. Sheffield	,, ..	2
	.. Leeds C.B.	,, ..	25
	.. Thirsk	Rural ..	14
	.. Sculcoates	,, ..	12
C	.. Rawtenstall	Urban ..	234
	.. Bollington	,, ..	50
	.. Sale	,, ..	10
	.. Liverpool	,, ..	28
	.. Worsley	,, ..	4
	.. Chester	,, ..	42
	.. Leyland	,, ..	4
	.. Blackburn	,, ..	40
	.. Ulverston	Rural ..	2
D	.. Ebbw Vale	Urban ..	34
	.. Caerphilly	,, ..	36
	.. Cardiff	,, ..	8
	.. Llanelly	,, ..	11
	.. Monmouth	Rural ..	24
E	.. Oakengates	Urban ..	87
	.. Tipton	,, ..	30
	.. Dudley	,, ..	6
	.. Cannock	,, ..	50
G	.. Ottery St. Mary	,, ..	8
	.. Tiverton	,, ..	14
	.. Barnstaple	,, ..	12
	.. Wilton	,, ..	14
	.. Weston-s-Mare	,, ..	6
	.. Sturminster	Rural ..	4
	.. Malmesbury	,, ..	8
	.. Cheltenham	,, ..	2
	.. Bideford	,, ..	16
	.. W. Dean	,, ..	56
	.. Poole	,, ..	16
	.. S. Molton	,, ..	12
	.. Bath	,, ..	16
	.. Ramsbury	,, ..	6
	.. Langport	,, ..	20
	.. Bridport	,, ..	4
	.. Amesbury	,, ..	8
	.. Lydney	,, ..	6
	.. Calne	,, ..	10
	.. Wincanton	,, ..	12
	.. Pewsey	,, ..	20
	.. Stratton	,, ..	14
K	.. London Co. Co.	Urban ..	266
	.. Uxbridge	,, ..	54
	.. Feltham	,, ..	18
L	.. Oxenden	Rural ..	2
	.. Eton	,, ..	94
	.. Bedford	,, ..	6
M	.. Woodbridge	,, ..	38
	.. Aylsham	,, ..	4
	.. Bosmere and Claydon	,, ..	10
	Total	(Urban)	1,137
		(Rural)	436

Housing Progress in Scotland.

The following figures show the progress that has been made in the State-aided housing schemes in Scotland up to May 15, 1921:—Permanent houses completed, 1,607; houses built under reconstruction schemes, 67; temporary houses completed, 451; total, 2,125. In addition, there are 11,425 houses under construction.

Wages on Housing Contracts.

The Ministry of Health has issued a memorandum to local authorities pointing out the recent wage reductions in the building trades, and urging local authorities to take steps to obtain any reductions in respect of contracts for housing schemes that might become due in consequence of these reductions.

Proposed Town-Planning for the Doncaster Area.

In reply to a question in the House of Commons last week as to whether, in view of the development of the new coalfield around Doncaster and of South Yorkshire generally, any steps were being taken to arrange for a general town-planning scheme for those areas, Sir A. Mond said he thought it was highly important that the local authorities in those areas should combine to secure proper town-planning. Already with the assistance of the Ministry of Health a Joint Committee had been appointed for Doncaster and surrounding districts. The Ministry was pressing for a similar committee for the Dearne Valley. It was hoped also to take action as regarded the Rotherham area when the proposals for the extension of Sheffield and Rotherham had been settled.

The Cost of House Building.

In anticipation of the cost of building being further reduced in the near future, the Chipping Norton Town Council has decided not to proceed at present with the second part of its housing scheme.

INCREASE OF RENT: ALTERNATIVE ACCOMMODATION.

IN a note in our issue for January 28, we very briefly referred to the case of Chiverton *v.* Ede, but said it would require further consideration as it raised points of importance under the Rent Restriction Act. It is now reported in the Law Reports (1921, 2 K.B. 30), and we refer to it again.

The plaintiff had served with His Majesty's Forces, having given up his own house on joining, his wife going to live with her parents. He was demobilised in April, 1919, and, having endeavoured to find accommodation for himself and his wife without success, in September, 1919, he purchased a house in Southampton, which contained two sitting-rooms, three bedrooms, and a combined kitchen and scullery. This house had for some time been occupied by the defendant on a monthly tenancy, and she had furnished the house and lived there with her son, age 17, and a daughter, age 19, besides taking weekly lodgers. The plaintiff after purchasing the house saw the defendant and offered her accommodation in the house, but required for himself and his wife one sitting-room and one bedroom unfurnished and the joint use of the kitchen and scullery.

The defendant had refused this offer, and, her lodgers having left, took others after the offer, viz., a husband and wife, whom she provided with fire, light, cooking, and attendance for 32s. a week. The plaintiff gave the defendant notice to quit on September 26 for November 1, 1919. The defendant paid the rent to November 1 and had offered further rent, but the plaintiff had refused to receive it lest he should admit that the tenancy continued.

The defendant refused to quit, and in July, 1920, the plaintiff commenced this action, claiming possession as from November 1, 1919, and mesne profits at £2 3s. 4d. a month from that date to the hearing or judgment. The defendant paid into court without denial of liability a sum representing £2 3s. 4d. a month from November 1 to August 1, 1920. Under section 5, subs. (1) (*f*) of the Increase of Rent Act, no order for possession can be made unless "the landlord became the landlord after service in any of His Majesty's Forces during the war and requires the house for his personal occupation and offers the tenant accommodation on reasonable terms in the same dwelling house, such accommodation being considered by the court as reasonably sufficient in the circumstances."

The county court judge had held that the accommodation offered could not be considered reasonably sufficient in the circumstances, and in coming to this conclusion he appears to have taken into consideration the facts that the defendant had always taken in lodgers and that the order, if made, would break up the household as it existed and would compel the defendant to sell part of her furniture. The order for possession was refused, and the money paid into court was ordered to be paid to the defendant.

The divisional court held that the county court judge had not misdirected himself, and that in exercising the discretion conferred upon him he could take into consideration such questions as the tenant having been in the habit of taking in lodgers.

It is to be noted that under par. (*f*) the judge has not only to consider whether the accommodation offered the tenant is "reasonably sufficient in the circumstances," but that this paragraph is also governed by the general expression in the sub-section, "and in any such case as aforesaid the court considers it reasonable to make such order or give such judgment." It may, however, be noted that paragraph (*f*) was introduced into the Act as a concession to men who had served with the Forces, and it is in itself a stringent comment on the character of the rent legislation that even the interests of a man who had served with the Forces are made subservient to those of a monthly tenant occupying a house which the ex-soldier had bought.

The case surely illustrates the undesirability of legislating for a class, the tenants, and the legislation goes to absurd lengths when even lodgers have to be considered as an element as against the claim of the owner. We can only repeat an observation we have made before, that the courts should have been enabled to consider the necessities of the owners and their difficulties in obtaining accommodation as well as the tenants, whereas the Act when accommodation is made a condition of an order for possession focuses attention on the tenants.

The point as to the payment into court caused some difficulty. The reason the county court judge ordered the sum paid into court to be paid out to the defendant was that as possession was not granted the tenancy was still subsisting, and, although rent might be due, a claim for mesne profits could not be made, and therefore the plaintiff had failed in the action. The divisional court was divided in opinion as to the effect of this payment into court made without a denial of liability, and also not complying strictly in some respects with the county court rules, and the right order to be made in respect of the money, but it is sufficient to say that as the defendant had undertaken to pay the same sum as rent the point is of no great importance except that where the question in issue is an order for possession based upon the Rent Act with a claim for mesne profits if the defendant disputes the claim for possession it is unwise to make a payment into court at all. The point was not made in this case, but it should be noted that as a payment into court without a denial of liability is, by the county court rules, to be taken "to admit *pro tanto* the claim or cause of action or complaint in respect of which the payment is made," it is conceivable that it might be argued in another case that a payment into court in respect of a claim for mesne profits must mean an admission that the tenancy was not subsisting. This point was not in fact raised, and we express no opinion on its value, but confine ourselves to pointing out the advisability of exercising caution in making payments into court in such circumstances.

THE BUILDING TRADE.

SOME METHODS OF CARPENTRY AND JOINERY.

IN the course of a lecture to have been delivered at Carpenters' Hall, yesterday, on "Some Methods of Carpentry and Joinery," Mr. C. F. A. Voysey said there was a frankness about carpentry and joinery and a pleasure in its revelation of structure that made him inclined to regard the painter as a spoiler of fine craftsmanship. Often did he hide with his coats of paint the fascinating ingenuity of good construction. Sadly, too, often he was needed to hide inferior material and bad workmanship. All good carpentry and joinery, if carried out in good material, would look well left in the white, as the technical phrase expressed it. Even deal would quickly tone and look quite well unpainted. Paint, of course, kept off atmospheric effects from woodwork by closing up the pores, but it was strictly true to say that all wood construction, whether painted or not, moved a little. It must expand and contract, and therefore should be fixed in such a manner that it could move without injury to other materials. For instance, stair strings should never be bedded in the thickness of plaster, but should be kept on the face of the plaster. It was very unfair to carpenters and joiners to expose their work to the abnormal dampness of new brickwork and plastering.

When building, after the roof was on the glazing should be postponed until the wind had done its best to dry the building. Then, after the plaster work was finished, as much time as possible should elapse before the joinery was fixed. All wood construction was liable to rot if not allowed to breathe. That was to say, it must have some ventilation at all times, especially when exposed to a damp climate. Good joinery was often damaged irreparably by having its arrises bruised or lacerated during the progress of building because of the neglect of the simple precaution of rounding off all sharp external angles before the work left the joiner's shop. When the arris was blunt, or slightly rounded, it was not so likely to get damaged. It was very difficult to get that little matter attended to, because there was a pitiful absence of pride on the part of workmen in one another's work. Especially was that the case between the different crafts. You would find plumbers and plasterers cared not a scrap for the joiners' work.

The personal vanity that confined people's interest in their own effort was a weakness to be guarded against. Every workman on the building ought to rejoice in the combined result of all. In other words, unselfishness and disinterestedness in the big final result ought to dominate and delight each individual engaged. They would all be more happy if they could enjoy the success of others. The beauty resulting when each craftsman was doing his best should be a source of pride and pleasure to every one concerned with the building. Frankness in construction should surely tend to stimulate the pride of the workman in his work, and concealment of all kinds should be discouraged. Any form of deception was poisonous to the community. They could not be too truthful, and he was sure efforts in the direction of frankness and perpetual regard for truth in all things clarified the judgment of values, and added an interest which must lead to greater simplicity. It was the not quite frank, and the not quite honest, that were the most complex in their conduct. In these days there was an almost crazy crying out for economy, especially the economy of labour; therefore, they must try to be as simple as they could in their construction. The multiplication of horizontal ledges that caught the dirt, the multitude of beadings and mouldings, all should be strenuously avoided. The V-jointed or beaded matchboarding that was seen so much was to him a dirt-catching symbol of the effort to hide. It was invented to hide the shrinkage of the boards. Was it not more objectionable than nailing a little moulded fillet over the joint? Unless, of course, the joiner was mad enough to nail it to each board, which ended in its being torn asunder by shrinkage; that, he regretted to say, had actually happened. The fillet did not harbour microbes as the bead or V-joint would do. It would be a good thing if they could encourage more the use of dovetail keys and wooden hinges and latches. The less metal used in joinery the better. It was to him, thereby, the more thoroughbred; at any rate, if nails or screws had to be used they should never be artificially hidden. The hiding of necessity was unfrank and foolish.

Were the quality of frankness more generally cultivated and encouraged, half-timber construction would never have been imitated by means of thin boarding. Every self-respecting carpenter ought to refuse to perpetrate such a fraud. How far was the use of half-timber work to-day to be justified at all? For his part, if it could not be produced by hand processes, they were better without it. The hard, unsympathetic exactness of machine-sawn and machine-planed posts and rails was very unpleasant, and a mere parody of the human touch which was derived from the use of the adze, and the intelligent selection of natural shapes, which luckily could be secured on some large estates, and under conditions when money making was not the aim and end of all things.

It must cost more to grow, fell, season and cut up by hand all their own timber than to buy it in the market, machine-sawn and planed. Was the quality of the old work worth the extra trouble and cost? He thought it was. But this commercial age said it was not. So they could not find the clients who would rise to the occasion. Here and there they had heard of them, but they were very rare and precious souls.

As an Englishman, he regarded English oak as the king of woods, and always endeavoured to build houses with as little wood as possible so that oak might be used as far as practicable throughout. With that idea in view, skirtings, window sills and linings, door linings and architraves might all be omitted, even floor boards might be dispensed with, and thus bring the use of oak well within the means of the poorest building owner. In that way the cost and upkeep of paint might be entirely eliminated. Not only would the cost of repairing and upkeep be saved, but also the daily labour of cleaning. An oak door that was daily dusted improved daily, but the painted door only deteriorated. Proper rebated door frames would then take the place of linings and architraves, and doors when stiffened with gun metal or wrought-iron strap hinges looked very well and gave no trouble to clean. Floors without floor boards could be formed of wrought joists with concrete partition slabs laid on the top of them, and floated over with hard plaster or one of the many patent jointless floor coverings. That kind of floor, of course, needed no lath and plaster ceiling; distemper between the beams completed it.

Skirtings could be made with glazed tiles set flush with the plaster. Black marble, unpolished, or blue pennant Bath stone, or hard vitreous unglazed tiles might be used instead. All that was really needed was a border three inches high, and hard enough to withstand the carpet sweeper. The initial cost would be found to balance the expense of the old-fashioned wood skirting, with its grounds and space behind for mice and perpetual need of cleaning and painting. That kind of construction, which he recommended, though eliminating much of the carpenter's and joiner's work, added great lustre and importance to that which remained, and the carpentry and joinery became important elements in the decorative quality of the building. It was a pity fitments were not more common. A cupboard built into a house often required only a door, frame, and floor. There was then no space at the top, sides, or back for the accumulation of dirt, and no carpet was wasted beneath it. Wardrobes, chests of drawers, toilet tables, and washstands could be built in in much the same way, and so save a great deal of labour in cleaning, carpeting and wall covering.

Tenants might save considerable expense in moving from house to house if it were the general practice to fit them up as suggested, and the joiner's share in the general effect would be immensely enhanced. All baths, lavatory basins and valve closets should be cased in, because if they were not there were numerous dark, unget-at-able crevices that held the dirt, and carpeting and floor coverings of every kind were much more easily and economically carried out. It was obviously more easy to carpet up to a straight wooden casing than round about the trap, pipes, and feet of the bath, and a more orderly and much tidier effect was produced in both bathroom and closet. If the casing was skilfully carried out dust and dirt did not accumulate behind it, and even if it did it could not do any harm to anybody, so that, strictly speaking, it was not dirt; it was not matter in the wrong place. When fireplace hearths were raised three inches above the floor level, oak solid curbs made excellent fenders and needed no more cleaning than the duster would give them.

There were many different kinds of wood with which he had had little or no experience. But it seemed reasonable to contend that they ought to use all those of English growth in preference to foreign grown. Highly-polished veneers like mahogany were natural enough to Italians and to French—indeed, the farther south the more shiny became the surfaces. A northern climate suggested the comparatively rough and rugged, and the sombre richness of texture. Highly-polished marbles and glazed tiles seldom looked right in England. They could not be too diligent in learning the different qualities of English-grown timber, and they would find quite sufficient variety to serve any legitimate purpose.

He hoped nothing need be said to condemn the vicious practice of staining; to give wood the appearance of an age it had not acquired was to lie. To grain with paint was a similar effort, but not so deceptive. Both were to him originally dishonest in intent, but they were no longer deceived by either; the fact that both originated in the effort to deceive made them detestable to the end of time. Moulding on the solid, where the moulding was intended to soften and protect an arris, was far and away to be preferred to a mitred and planted-on moulding run out by the mile in a machine. Where the shrinkage of boards took place, such as in doors, a little fillet, though machine-made, might make the door more pleasant to behold. But they needed great restraint in the use of machine-made mouldings, which were mostly dull, dreary dust-traps. Better far than the machine-made moulding was the colour decoration produced by stencilling and hand-painting ornament upon wood construction. Who could think without delight of the painted screens and roofs of the fourteenth and fifteenth centuries? The joy and suggestion of thought and feeling to be conveyed by painted ornament far outstripped any pleasure received from machine-made mouldings, and he believed the cost of the one was not more than the other. Where mouldings were used, there was an opportunity for an added beauty. By

picking out with colour, and sometimes gilding, dull mouldings might be made to sing.

It seemed that they were awakening from a long materialistic slumber. Modern science had clouded the higher nature of man. They had had their noses on the ground, and their microscopes penetrating the earthly, and everything had become khaki colour in consequence. Now the pendulum was beginning to swing in the other direction, towards a deeper emotionalism. Brighter colour was found in the shops, and before long, if not already, it would be found in houses. When the love of home revived they would delight in their colour. When they were tired of dashing from place to place in motor-cars they would thirst for coloured carpentry and joinery. Already there was more coloured furniture than there was ten years ago.

Though he began by denouncing the painter, it was not inconsistent to end by extolling the decorator, who would not dream of covering up all the wood, but would merely add merriment or suggest thought and feeling in places. The carpenter and joiner must not think that when they had made a useful article well and fittingly all their duty was done. There was a moral and spiritual side to their craft, as to all others. They all had to contribute towards the raising of the standard of personal character. Their work is wanted to lift themselves and others out of the quagmire of earthly things into a boundless heaven of ideas. Everything around them would tell of some pleasant thought and some lovely feeling, when they were brimming over with the love of beauty—and then the world of flesh would be the richer for them, as they realised the existence of ideas in things, as well as in people. Lastly, he would remind them that wood was not made by man, but given to him by Nature, wherewith to show his reverence for Nature and cultivate his character by encouraging his frankness and love of truth and beauty. It was like pen and ink to the author, a medium by which he could serve his fellow-men and encourage the development of man's higher nature. As fitness was the basis of all beauty, so the carpenter and joiner in trying to be more fit in all their methods were laying the foundations of a more beautiful world yet to come.

Quite recently journalists had been busy calling attention to what they called "a new movement in art," or a "new Renaissance," and they had been crying out for a committee of taste, as if artists could be induced to agree as to who should serve on such a committee. What a crazy thirst there seemed to be for appointing ministries, or bodies, to tyrannise over other people! The idea that everyone's taste except their own required the control of an outside authority was the product of an insane mind. Mad people often thought everybody was wrong but themselves.

Were there not three questions fundamental to all men which must be, and could only be, answered by each individual soul to himself? Those three questions were: What was truth? What was beauty? What was God? Conscience was telling them all the time they must love truth, they must love beauty, and they must love God. What he thought to be true in his heart of hearts, if he was conscientious, was true for him. And so they had to say, What *is* beauty, and what *is* God? Men's ideas of those three varied with the climate in which they lived and the traditions in which they were born, together with many other influences and forces. Conscience would not tell them what was truth, or what was beauty. Reason was their guide and would help them to decide what was true. Love was their impulse, stimulating them to perceive what was true when it was presented to them. Conscience only said: "I must do right, I must not do wrong." Directly they understood and distinguished the difference between the conscience and the moral code, they were able to understand the difference between the love of beauty and beauty itself. The definition of what was beauty was the result of reason acting on feeling, and the remembrance of that would enable them to bear patiently with those who called beautiful that which they regarded as ugly, and *vice versa*. They must admit that people they thought quite wrong in their taste might still be loving beauty, just as in the same way many a man loved God who had a false theology.

Beauty was relative, and there could be no absolute standard of beauty so long as man was imperfect. For the more perfect they became the more beautiful would be their idea of beauty. Truth, beauty, and God, were all abstract ideas that were infinite, and they must not try to limit them to their own finite and imperfect conceptions. The love of beauty was the birthright of every man. The knowledge of how beauty was constituted was a matter of education and general culture.

It might appear that he had been departing from the subject of carpentry and joinery, but he had to show that what had been said was only like the concrete foundations of their superstructure. For generations they had been in the habit of separating the various channels of thought into rivers and lakes and tributaries, forgetting that religion and morals constituted the very waters themselves, and that therefore no subject of thought could be independent of them. If it was every man's duty to love truth, beauty, and God, it naturally followed that every carpenter and joiner had his share in the effort to make life more beautiful. Obviously, it would be unfair to say to the carpenter, "You have put your roof together and framed your floor; go away, we have done with you"; or to the joiner, "Thank you for your doors and windows. Good morning."

To him the one bright feature in that journalistic excitement over a committee of taste was that it had brought out, more than once, the expression of the belief that art was an essential part of life, needed for the beautification of everything, and must not be confined in watertight compartments and labelled "Architecture," "Painting" or "Sculpture." Carpenters and joiners were needed just as much, if not more, than any Academician. What they all had to do was to confer with one another and determine, if they could, on ways and means. They all agreed they needed a more beautiful world; they did not want a committee to tell them what was truth, what was beauty, and what was God. Each man knew for himself; but how best to cultivate those three affections and intensify their love for them all was the great question. He was one of those who thought very little could be hoped for from collective action. Each individual must quietly do his best in his own tiny world. The greatest forces of the world were often silent and unseen. By putting high principles into practice they caused more effect than by preaching them from the housetops.

Next time they made anything, if they determined to put their best work into the unseen parts as well as the seen parts of it, they could be sure the effect on their own character, and on others, would be more far-reaching than they could ever measure. Had not the loving devotion of the thirteenth-century craftsmen come down to them? And did they not speak to them to-day with no uncertain voice? He appealed to all real craftsmen to show by actual work that their love of truth, beauty, and God was as sure as any other worker in the arts; and needed no Government control.

They must unite in their resistance to the tyranny certain to follow on any acknowledgment of a committee of taste. Self-appointed wire-pullers and place-hunters, who would jostle one another to join the committee, and elect one another, would prove enemies to all true progress. It was a perilous position to pose as a guide to public taste. It was fatally easy to the destructive critic to fasten his attention on the hideousness of modern life. It was so easy to see the beam in other people's eyes. Surely, secret, silent personal effort at self-culture would do more good and hurt the feelings of others less. There were countless opportunities for the encouragement of themselves and others. They had only to admit the possibility of everything being made more beautiful, and then a true love for beauty would clear the way and suggest the means. It could not be a quick process; all things that lived long took long to grow. Each one must cultivate his own sense of beauty—it could not be dictated to him. If any definite form of beauty was approved and labelled as beautiful by a majority in power it could only become a fashion, or a manner imitated by monkeys, and in the end it was a hindrance to the birth of new ideas and more perfect development of feeling. Like all dogma, it was self-destructive. The only way to improve public taste was to improve individual personal character; nothing would do instead.

John Ruskin said, "Tell me what you love, and I'll tell you what you are," and the speaker was sure they must all readily admit that their true worth in the world and that which they recognised as their individual character was contained in the quality and quantity of their affections. It was what they loved that indicated to themselves, as well as to others, what they really were. So instead of loving money, worldly success, and amusement let them love truth, beauty, and God; and that, of course, involved the love of man, because the first and chief act of worship towards their Maker was the faithful service of man.

NOTICE TO QUIT AFTER SEPARATION OF PROPERTY.

A CURIOUS point arose in the case Bebington *v.* Wildman (1921, 1 Ch. 559). The plaintiff was the tenant of a farm and lands on a tenancy which commenced as to the lands on February 2, 1905, and as to the house and buildings on May 1, 1905, terminable by twelve months' notice on either side. In November, 1919, the whole property was put up to auction in two lots, one lot being purchased by the defendant in this action, and the other by one Wright. The rent was apportioned as between the purchasers by agreement, but the plaintiff did nothing to recognise the division of the tenancy. On January 22, 1920, the defendant's solicitors had given the plaintiff notice to deliver up possession on February 2 and May 1, 1921, of those portions of the property purchased by the defendant. On January 31, 1920, Wright's solicitors had given the plaintiff notice to give up possession, on February 2, 1921, of the lands purchased by him.

The question for the court to determine was whether these notices were valid notices to the plaintiff. Now, as the court held, a notice to deliver up part of a tenancy is invalid (Prince *v.* Evans, 20 L.T. 835). A notice to quit to be valid must be such that the tenant is able to rely upon it from the moment of receiving it, but as this first notice was bad and void and the second notice given by the other purchaser was equally bad for the same reasons, the court held that the two notices taken together did not operate as a valid notice.

It is to be noted that both notices were given before the date when the notices must commence to run, *i.e.*, giving twelve months' notice, but the court held that as there was never a notice which was good *ab initio* there was never a good notice as to the whole. The first purchaser's notice was bad, and being bad might have been withdrawn by him; therefore, there was never a notice the tenant could act on with certainty. In these days when large estates are being broken up by sale by auction the point decided in this case is worth noting, for unless the tenant has recognised the severance it is now clear that the notices must be given as to the entire property subject to the tenancy, and that the notices must be good when given. Counsel, in argument, stated that if both purchasers had given the notices simultaneously no question could have arisen, but this point was not referred to by the court, and we can venture no opinion upon it.

Ex-Service Men in the Building Trade.

Dr. Macnamara stated in the House of Commons last week that more than 15,000 ex-Service men had so far applied to join the Government scheme for employment in the building trades. Up to that date only fifteen cases had been reported as having signed on.

THE CONCRETE INSTITUTE.

LAND SUBSIDENCE.

AT a meeting of the Concrete Institute, held at Denison House, Vauxhall Bridge-road, S.W.1, on May 26, Mr. Lawson S. White read a paper entitled "Land Subsidence and its Effect on Concrete and other Structures," in the course of which he said recent investigations had tended to show that earth in foundations behaved somewhat as an elastic solid of low strength and low shearing value. It might therefore be treated as any other structural material when its relation of stress to strain, or load to settlement, had been ascertained. The elasticity of earth was commonly observed by a slight swelling or rising of ground after a load was released. Mr. J. F. Greathead, for the Public Service Commission of America, conducted many experiments, the principal results of which seemed to indicate that the elastic rebound was quite appreciable, but that the settlement on reapplication of the load was considerably greater than the recovery. A soil which had cohesive properties would naturally derive support from the earth in contact with its lateral surfaces. As the area increased the lateral surfaces became relatively smaller in proportion to the area, and consequently a larger unit load could be supported over a smaller area than over a larger one. This fact was frequently overlooked, and soils tested by loading a small area were often thought capable of supporting the same unit load over an unlimited area.

It would appear very advisable that a careful investigation of soil conditions should be made before the foundations of any large work were planned. The sea was one of the most troublesome and relentless of destructive agents, and examples of its effects were only too frequent. By constant storm and wave action the coast was worn away and undermined, or by water penetration to clay strata a greasy surface might be formed on which the mass above could slide forward and downward to the sea. Protective measures against wave action, such as groynes and seawalls, were a partial and in many cases almost a complete cure. River erosion, either by an alteration in the direction of flow or by a scouring of the channel, was chiefly to be expected in countries subject to torrential downpours. Exceptional floods might open up a new course or undermine and destroy existing structures. In regions thus affected a practical method of strengthening soft banks was to plant deep-rooted vegetation on the slope. Where a river wall was liable to be undermined by a deepening of the river bed, a flexible mat, consisting of large concrete blocks threaded on wire cable, had effectively prevented scour. It often happened in gravel soils that a stream flowed beneath the surface. Near a river, where a heavy building was founded on an alluvial deposit which covered the ballast bed, the soil might be forced down to a level at which it became affected by the erosive action of the flowing water. In such cases it was advisable to take the foundation down to ballast.

Careless construction of drains and water mains was a frequent cause of destruction of property in towns. A leakage generally grew, and might sometimes be due to a break caused by a slight natural subsidence or a swelling of clay soils in the wet.

In mining districts subsidence of large areas of land was only to be expected. The remedy lay in careful backfilling after mining or in the provision of adequate permanent supports. Chalk as a foundation bed should be well tested, since it was liable to undergo dissolution, leading to the formation of cavities which might cave in under pressure.

Buildings founded on timber grillages often subsided because of the decay of the timber. If the water level changed constantly, and the foundation was subject to alternate wet and dry periods, this decay was rapid; but timber might last well in earth always saturated with water. Top soil must be avoided as a foundation for buildings and, if feasible, for embankments, since it was honeycombed with worm holes and root channels, and it should always be stripped to a sound depth. The subsidence of earth-fills was often due to neglect of stripping. Water usually penetrated to the depression caused by initial subsidence, and so lubricated a surface on which a slide of the embankment might occur.

Vegetable soils, such as peat, gradually decomposed and lost volume. Allowance should be made for this shrinkage. Water in alkaline soils attacked and rotted concrete. Where large tracts of marshy ground, with thick peaty top soil, were drained, a considerable subsidence took place. That was due to three main causes—drying, decay and cultivation. Since a country of this type was usually very flat and almost waterlogged, the drainage system must be very carefully thought out, and provision made for maximum shrinkage. As the water table was lowered so the grades changed, and unless this was allowed for a pumping plant or drainage system might be rendered useless. Buildings on slowly subsiding soils usually settled equally and without damage, but the decay of timber pile foundations subsequent to the lowering of the water level was a frequent cause of failure.

It was a moot point whether or not earth taken from a cutting shrunk when made into an embankment. From exhaustive investigation of actual works it would appear that in calculating excavation quantities an allowance should be made. Top soils contained a considerable percentage of voids caused by frost or organic action; and since most embankments were built of soil of this nature, taken from shallow excavations, it was only to be expected that, quite apart from apparent shrinkage of volume due to subsidence of foundation bed and loss of volume due to transportation from cut to fill, or else due to rain erosion, a decrease in volume would result from handling and deposition and subsequent pressure in the fill. Made-up ground took time to settle finally, in spite of most careful watering and rolling in deposition. "Hydraulicking," a modern method of building large fills by pumping the material into place with water, resembled more closely the natural method of formation and produced the best results. Unless it was thoroughly investigated and tested, "made-up" ground should be avoided as a foundation bed for heavy buildings.

In countries which experienced severe cold the soil was sometimes frozen to a depth of from 4 ft. to 6 ft. and consequently its cohesion was impaired and its bearing power became uncertain. Every building foundation should be placed below the frost line, to avoid failure either by upheaval through expansion by frost or by subsidence on account of the weakness of frost-loosened soil. Clay soils were very sensitive to weather changes, since they swelled considerably when wet and contracted when dry. This generally accounted for cracked or leaning garden walls and gate piers. To avoid frost and weather action it was advisable to lay foundations, according to local conditions, at from 5 ft. to 8 ft. below the surface.

Water, when present in soils at a more or less constant level, often accounted for a certain amount of the bearing capacity, since it kept the earth in a swollen condition. A change of bearing capacity was therefore to be expected when the level of the water table was altered. The change occurred usually on account of a fall of level, in which case a natural subsidence followed the shrinkage. The eradication of the evil of wet basements by subsoil drainage often introduced the greater evil of foundation failure.

The resistance to movement created by friction of soils on soils or structures on soils was the fundamental cause of their stability. Many failures of embankments, retaining walls, dock walls, etc., were attributable either to a subsequent loss of frictional resistance or to the exceeding of the resistance value in design. Water was the chief enemy and, unfortunately, it was almost impossible in many cases to avoid its penetration to foundation beds. Deep, porous, sandy soils drained themselves freely, but clay soon became saturated, lost cohesion and frictional resistance and offered little resistance to the lateral thrust of superimposed soils or structures. Good drainage was therefore essential where possible. In cases where it was not possible to avoid water penetration, foundations must be taken down far enough to ensure their stability under the worst conditions, and lateral thrusts should be relieved or balanced to reduce their effects to a minimum.

When its cohesive strength was exceeded a soil had a tendency to flow like a plastic mass. In some cases the breaking down of cohesion destroyed a resistance that could not be regained, and movement continued until the pressure was distributed over an area large enough to bear it.

For buildings on ground of low bearing value spread footings or raft foundations were often used, in which case care must be taken to distribute the load equally, so that subsidence, if any, would take place uniformly. An unequal settlement would throw the centre of gravity of a building further towards the overloaded side, and thus cause still greater movement, which, to a structure of considerable height, might prove fatal. Reinforcement of the "raft" was a steadily growing practice and had proved successful in many cases. The steel might be placed either in the body of the mattress, as slab reinforcement, or, more efficiently, between the coloumn bases in beams or cantilevers formed in trenches of the desired dimensions cut in the foundation bed. In calculations to determine the bearing area for buildings, the live load must not be neglected. A convenient method of calculation was to consider that footing in which the live load bore the highest proportion to dead load, and to note the area needed to support its total load at the allowable unit-bearing value. From this, neglecting the live load, the dead load per unit area for the footing could be calculated, and adopted as the unit for the calculation of areas required for the other footings. Pile foundations were often abused and sometimes placed where absolutely useless. A pile driven down to a material of good bearing capacity could sustain its load as a column, but when a suitable bed was too far distant a pile might be driven for a length into a weak soil, when it would transfer its load by skin friction. A certain number of piles would load an area to its maximum, and extra piles, to be of any service whatever, must be driven outside that area to create a larger zone of resistance. Although piles would bear a high vertical thrust, they were weak laterally, since they were easily forced through the soil and serious failures had occurred on account of lateral pressure, such as might be expected with a retaining wall. Piles should, therefore, be driven in the line of resultant pressure.

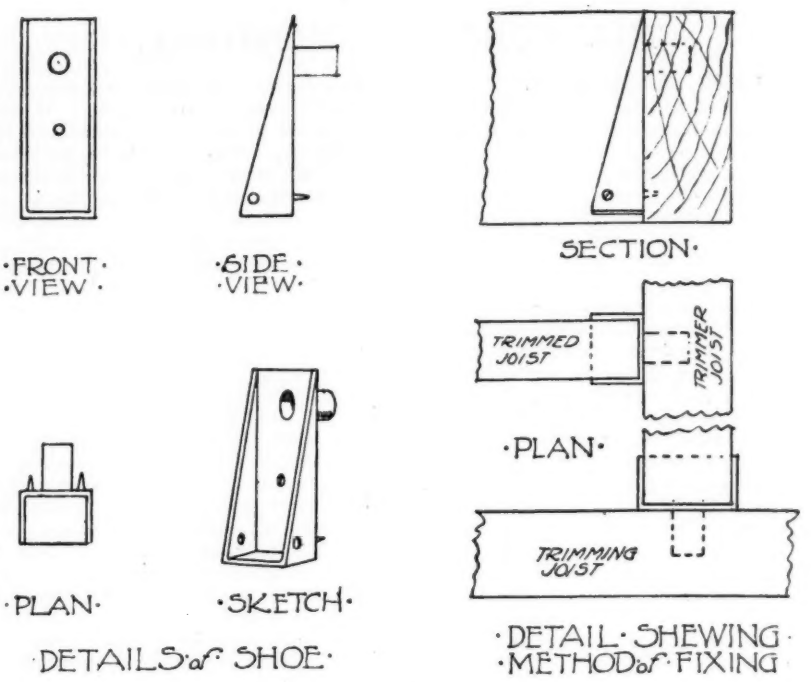
In soil of a compressible nature it was seldom that a building maintained its original foundation level, but such slight subsidence was not to be feared if it was uniform, and it was a growing practice to expect a small settlement and make allowance for it. An effort should, therefore, be made to tie a building well together, and make it act more as a unit than a collection of disjointed parts. Reinforced concrete was by nature an ideal structural material under such circumstances.

In the question of land subsidence, it should be borne in mind that: (1) It was easier and cheaper to brace an excavation adequately than to be obliged to rebuild a street of ruined houses; (2) It was more economical to investigate a foundation bed thoroughly and design sound footings than to underpin weak footings after their failure; (3) Allowance must be made for any "natural" change of state which might occur, for otherwise a design might prove inadequate to meet new conditions; (4) Where trouble occurred it was due, in a great many instances, to water action. Good drainage was, therefore, a key to safety; (5) It had been said of foundation design that, unlike most other engineering calculations, it paid little heed to a safety-factor, but it now seemed far more possible that this highly desirable working margin might be economically obtained by the use of reinforced concrete in foundations.

NEW INVENTIONS.

A NEW SYSTEM OF JOINTING TIMBER.

The high cost of labour has resulted in the invention of many labour-saving devices, most of which, however, aim at more rapidly and economically carrying out operations by machinery which were formerly done by hand. A device which aims at securing economy by the actual elimination of manual labour in heavy joinery work has been brought to our notice by the inventor, Mr. Arthur J. Hayden, of 152, Whitehorse-road, West Croydon. The device (illustrated on this page) consists of a metal shoe with a spigot at the back, cast in one piece. When fixing two joists together, a small hole is drilled to take the spigot and the shoe is then tapped home. The joist is slotted into the shoe, and may also be secured by screws or nails, through holes provided in the sides of the shoe for that purpose. It is claimed that the labour saved in cutting tusks tenons and the material saved result in a considerable economy in cost per joint, according to the size of timber used. A stronger form of construction is secured by the fact that the heart is not cut out of the trimmer or trimming joists, and a further saving in timber is effected as these joists are only required to be half-an-inch thicker than the other joists. This system of jointing is already being used on a number of housing schemes in different parts of the country and, we are informed, is being specified by several well-known architects. In addition to the trimming of new floors, this shoe is proving useful in the repairing or trimming of existing floors. The shoes are also made in a slightly different form for use in the construction of concrete cottages. In this case they are used for carrying the joists generally—the spigot at the back of the shoe being omitted, and the shoe itself fixed to the concrete wall by bolts built in the concrete. The shoes are supplied by Messrs. Haywards, Ltd., of Union-street, S.E. 1.



New System of Jointing Timber.

THE "BRETRIDGE" PORTABLE ROOF.

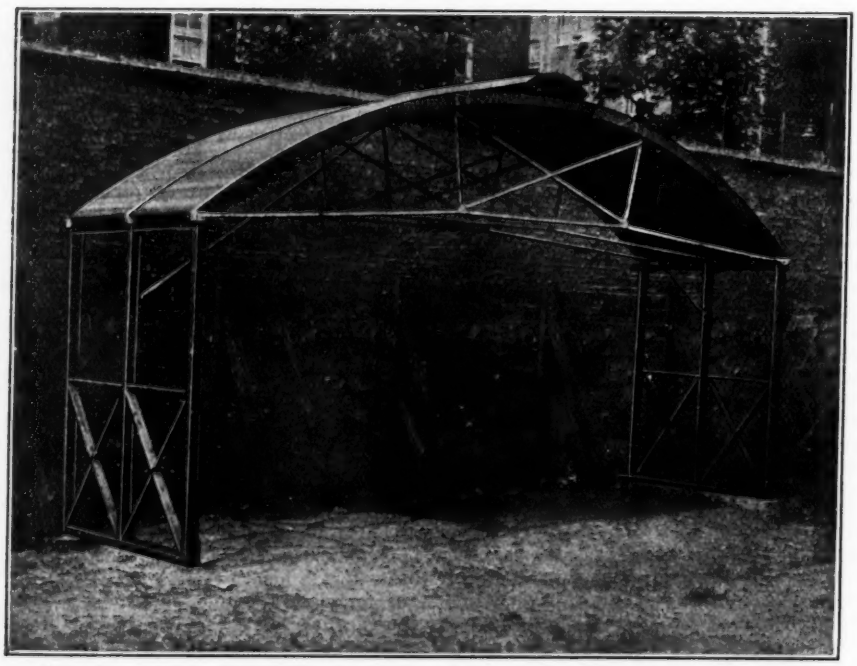
This roof, which was exhibited at the recent Building Trades' Exhibition at Olympia by the Swift Building Co., Ltd. (1, Pump-court, Fleet-street, E.C.4), embodies some novel principles, the most outstanding of which aims at solving the problem of the expansion and contraction of timber.

The roof consists of strong reinforced laminated timber ribs which have a groove in the top of each in which narrow widths of timber—which engage each other—are placed; these narrow widths of timber or slats are held in compression by a spring-frame device in the crown of the roof. Whilst the timber slats are continually under compression they are not nailed but held yieldingly, which freely allows for expansion and contraction to take place as required under different conditions, such as vibration of machinery, great humidity of atmosphere, heat and cold, &c. This form of roof produces a ceiling effect, and there being no fissures or cracks ensures good insulation; it also prevents dust and soot from entering through the roof, thus eliminating the necessity for putting in ceilings or inner linings to overcome these evils.

The roof is simple and inexpensive to transport, as it packs into a very small compass (a 30 ft. span by 5 ft.—sufficient to cover 150 ft. super floor space—packs into a compact bundle of 30 cubic ft., and weighs only 7½ cwt.). The heaviest piece in the package only weighs ½ cwt., and can easily be carried by one man; the complete trussed rib when assembled weighs 1½ cwt.

As all the parts leave the factory finished complete in standardised sections no sawing, nailing, or cutting is required in erection, but merely assembling on the site, and this can be done with unskilled workmen without elaborate scaffolding or heavy derricks. The whole of the timber used in the construction of the building is treated against rot and made vermin proof and flame resisting; it is claimed that the timber will not ignite up to 1,500 to 1,600 degrees Fah., and even at these temperatures it will only char.

The manufacturers claim that this roof can be put on the market at a price which will compare favourably with any other type, owing to the cheapness in cost of its manufacture and the standardisation and simplicity of its component parts. A saving is also effected in the supports required for the roof, owing to its lightness.



The "Bretridge" Portable Roof (two sections).

Proposed New Arterial Road.

Mr. F. C. Cook, on behalf of the Ministry of Health, held an inquiry at West Hartlepool last week in connection with the scheme for the construction of a new road connecting West Hartlepool with Easington, which will involve a total expenditure of over a quarter of a million pounds. The West Hartlepool Corporation sought permission to borrow £25,000 of the £45,000 which is its agreed portion of the cost. The Engineer to the Durham County Council, Mr. A. E. Brooks, pointed out that the proposed new road was a step towards a scheme that would probably develop for the carrying of a road across the Wear, to the west of Sunderland, and on to the Tyne, providing, when completed, a through road for traffic from Yorkshire to Northumberland. Mr. J. Dennett (Deputy Town Clerk, West Hartlepool) said the proposed new road would reduce the distance between West Hartlepool and Blackhalls Colliery from 11½ miles to 4; between West Hartlepool and Herden from 12 miles to 6; and between Easington and West Hartlepool from 13½ miles to 8. The Durham County Council, the West Hartlepool Town Council, and the Easington Rural District Council had each decided to contribute £45,000, and £36,000 would be received from the Unemployment Grants Committee, whilst the Ministry of Transport was expected to contribute £100,000, a total of £271,000.

Obituary.

The death is announced of Mr. Thomas Muirhead, architect, of Manchester, who designed the cricket pavilions at Kennington Oval and Old Trafford.

THE REGISTRATION OF PLUMBERS.

THE Worshipful Company of Plumbers and the General Council for the National Registration of Plumbers, which are jointly forwarding a scheme for improving the education and registration of plumbers, have issued a circular setting out the objects of the scheme.

The national registration scheme was initiated in 1883 with the object of enabling the public to distinguish plumbers who have given evidence of their competency and undertaken the responsibility required by the conditions of their registration, and to raise the efficiency and status of plumbers as a body in a manner consistent with the position they occupy in relation to the public health. These objects are to be attained by a comprehensive system of apprenticeship, and by the registration of all plumbers who have passed a qualifying examination. The movement has been carried out by means of a General Council with Managing Committee, and of Local Councils throughout the country, upon which the public, the master plumber and the operative plumber have always been represented in equal proportions.

The registration examinations are conducted by the London and Local Councils under Rules recently revised by the Managing Committee, under the advice of the Board of Examiners, of which the following is a summary :—

(1) An examination may be arranged whenever not less than five *bona fide* applications for registration are received by any local council.

(2) Every examination will comprise (*a*) tests of practical workmanship; (*b*) papers on theoretical plumbing.

(3) The examiners in every case will comprise both master and operative plumbers, and one-half of the number appointed for each examination will be selected from districts other than that where the examination is held.

(4) The practical examination will in all cases be of such a character as to show that the candidate can properly bend all-sized lead pipes and joint them by either upright, underhand, or branch-wiped soldered joints in such positions as would occur in practice without the aid of lamp or gas-jet. Candidates must also be able to mark-off and boss lead, or execute in a satisfactory manner any piece of plumbing work. At least three tests will be put to each candidate, and he must obtain not less than 60 per cent. of the maximum marks to secure a certificate.

(5) The theoretical examination will comprise ten questions, of which every candidate must attempt at least six.

Candidates must be prepared to answer questions dealing with :—

(*a*) Varieties of pipes in plumbing work, and jointing same. The nature and uses of seamless lead pipes, tin and tin-lined lead, copper, and other metal pipes.

(*b*) Construction and uses of different kinds of pumps, hydraulic rams, &c.

(*c*) The principles of hot-water circulation for domestic and other purposes, including cylinder and tank systems.

(*d*) Covering of flats, gutters, cesspools, dormers, and skylights, &c., with sheet-lead and other metals.

(*e*) Water storage, general distribution and arrangements of services in buildings.

(*f*) Water-closets, their fittings and supply, baths, lavatories, sinks, &c., momentum and syphonage of traps, and methods of prevention.

(*g*) Principles and construction of drainage systems, with disconnecting and inspection chambers, interceptors, and other traps.

(*h*) Ventilation of drains and soil pipes, &c.

A Certificate of Registration is issued under certain conditions to all candidates who satisfy the examiners or who are accepted by the Managing Committee under the rules in force, and who are approved by the Worshipful Company of Plumbers for admission to the Register. The Certificate entitles the holder to use the letters "R.P." after his name.

Applications for registration forms should be made to the Secretary of the General Council, Mr. E. S. G. Malins, 15, Great St. Helen's, E.C. 3.

RATES OF WAGES IN THE BUILDING TRADE.

THE following are the present rates of wages in the building trade in the principal towns of England and Wales. It must be understood that, while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur :—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Masons' Bricklayers' Plasterers' Labourers.
Aberdare	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Accrington	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/10–1/10½
Altrincham	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/10–1/10½
Ashton-under-Lyne	2/2	2/2	2/2	2/2	2/2	2/3	2/2	1/10–1/10½
Barnsley	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Barrow-in-Furness	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/10–1/10½
Barry	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Bath	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/7
Bedford	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/7
Birkenhead	2/4	2/4	2/4	2/4	2/4	2/4	2/4	2/0½
Birmingham	2/2	2/2	2/2	2/2	2/2	2/3	2/2	1/11
Bishop Auckland	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Blackburn	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/10–1/10½
Blackpool	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/10–1/10½
Bolton	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/10–1/10½
Bournemouth	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/7
Bradford	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Bridgwater	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/5½
Brighton	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/7
Bristol	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Burnley	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/10–1/10½
Burton-on-Trent	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/9½
Bury	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/10–1/10½
Cambridge	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/7
Cardiff	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Chatham	1/9	1/9	1/9	1/9	1/9	1/9	1/9	1/6
Chelmsford	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/7
Cheltenham	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/7
Chester	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/10–1/10½
Chesterfield	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Colchester	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/7
Coventry	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Crewe	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/8½–1/9
Darlington	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Derby	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Doncaster	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Dudley	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/9½
Durham	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
East Glam. and Mon. Valleys	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Exeter	1/10	1/10	1/10	1/10	1/10	1/10	1/9	1/7
Folkestone	1/9	1/9	1/9	1/9	1/9	1/9	1/9	1/6
Gloucester	1/10	1/10	1/10	1/10	1/10	1/10	1/9	1/7
Grantham	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/9½
Grays	2/2	2/2	2/2	2/2	2/2	2/2½	2/1	1/11
Grimsby	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Great Yarmouth	1/9	1/9	1/9	1/9	1/9	1/9	1/9	1/6
Guildford	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/7
Halifax	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Harrogate	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Hartlepools	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Hastings	1/9	1/9	1/9	1/9	1/9	1/9	1/9	1/6
Hereford	1/10	1/10	1/10	1/10	1/10	1/10	1/9	1/7
Huddersfield	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Hull	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Ipswich	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/7
Lancaster	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/10–1/10½
Leamington Spa	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/9½
Leeds	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Leicester	2/2	2/2	2/2	2/2	2/2	2/2½	2/2	1/11
Lichfield	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/9½
Lincoln	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Liverpool	2/4	2/4	2/4	2/4	2/4	2/4	2/4	2/0½
Llanelly	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
London	2/2	2/2	2/2	2/2	2/2	2/2½	2/1	1/11
Loughborough	2/2	2/2	2/2	2/2	2/2	2/2½	2/2	1/11
Luton	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/7
Maidstone	1/9	1/9	1/9	1/9	1/9	1/9	1/9	1/6
Manchester	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/10–1/10½
Mansfield	2/2	2/2	2/2	2/2	2/2	2/2½	2/1	1/11
Merthyr Tydfil	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Middlesbrough	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Newcastle-on-Tyne	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Newport, Mon.	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Northampton	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/9½
Norwich	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/7
Nottingham	2/2	2/2	2/2	2/2	2/2	2/2½	2/2	1/11
Oakham	1/11	1/11	1/10	1/11	1/11	1/11	1/11	1/8
Oldham	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/10–1/10½
Oxford	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/7
Plymouth	1/11	1/11	1/11	1/11	1/11	1/11	1/10	1/8
Pontypridd	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Portsmouth	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/7
Preston	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/10–1/10½
Reading	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/7
Rochdale	2/2	2/2	2/2	2/2	2/2	2/3	2/2	1/10–1/10½
Rochester	1/9	1/9	1/9	1/9	1/9	1/9	1/9	1/6
Rugby	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/9½
St. Albans	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/7
St. Helen's	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/10–1/10½
Scarborough	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/9½
Sheffield	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Shrewsbury	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/9½
Southampton	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/7
Southend-on-Sea	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/9½	1/7
Southport	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/10–1/10½
South Shields	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Stockport	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/10–1/10½
Stockton-on-Tees	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Stoke-on-Trent	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/9½
Stroud	1/10	1/10	1/10	1/10	1/10	1/10	1/9½	1/7
Sunderland	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Swansea	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Taunton	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/7
Torquay	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/7
Tunbridge Wells	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/7
Wakefield	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Walsall	2/0½	2/0½	2/0½	2/0½	2/0½	2/1½	2/0½	1/9½
Warrington	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/10–1/10½
West Bromwich	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Wigan	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/10–1/10½
Windsor	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/7
Wolverhampton	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/11
Worcester	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/9½
York	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/9½

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom or place where quantities, forms of tender, &c., may be obtained

BUILDING AND PAINTING.

✱JUNE 4.—**Heston and Isleworth.**—HOUSES.—Contract No. 1, 112 houses at Sutton-lane; contract No. 2, 36 houses at Isleworth. Mr. T. G. Carey, Surveyor to the U.D.C., Council House, Hounslow. Deposit £2 2s.

JUNE 6.—**Bradford.**—FENCING—For concrete and wire fencing at Housing Scheme No. 2, Thornbury (Dick-lane), for the T.C. City Architect, Town Hall, Bradford.

JUNE 6.—**Braintree.**—CONVERSION.—Conversion and adaptation of "Bocking Place" into a higher elementary school, for the Essex County Council. Mr. Jno. Stuart, F.R.I.B.A., County Architect, Old Court, Springfield, Chelmsford. Deposit, £2 2s.

JUNE 6.—**Callington.**—HOUSES.—Erection of 14 houses, for the U.D.C. Mr. Claude Truscott, architect, Downgate, Pensilva, Liskeard.

JUNE 6.—**Castle Ward.**—HOUSES.—Erection of a pair of Type "A" and two pairs of Type "B" houses at Fawdon, for the R.D.C. Sanitary Surveyor, Fernlea, Ponteland.

JUNE 6.—**Croydon.**—EXTENSIONS.—Small extensions and alterations at the Union House, Queen's-road, Croydon. Mr. Henry Berney, architect, 33–35, High-street, Croydon. Deposit £5 5s.

JUNE 6.—**Dunfermline.**—HOUSES.—Erection of 24 houses at High Valleyfield, for the Fife C.C. Mr. H. F. Hodge, District Engineer, County Buildings, Dunfermline. Deposit £1.

JUNE 6.—**Greenock.**—HOUSES.—Erection of 18 tenements and 6 double cottages, for the T.C. Office of Public Works, Municipal Buildings, Greenock. Deposit, £1 1s.

JUNE 6.—**Hindley.**—CONVERSION.—For conversion of building in Town-yard to garage and erection of disinfecting station, for the U.D.C. Mr. O. P. Abbott, Surveyor, Council Offices, Hindley.

JUNE 6.—**Hindley.**—PAINTING.—For painting cart sheds, for the U.D.C. Mr. O. P. Abbott, Surveyor, Hindley.

JUNE 6.—**Nuneaton.**—HOUSES.—Erection of 100 houses and construction of new streets and sewers, in one contract or in groups of 22, 24, 26 and 28 houses, for the Borough Council's Housing Scheme on the Attleborough Site. Mr. R. C. Moon, Borough Surveyor, Municipal Offices.

JUNE 6.—**Rochdale.**—ADDITIONS.—Erection of verandahs, and additions to block at Birch Hill Hospital, for the Board of Guardians. Mr. H. H. Clough, architect, 32, Lord Street, Rochdale.

JUNE 6.—**Tiverton.**—HOUSES.—Erection of approximately 50 houses, for the T.C. Captain J. P. Dixon, architect, 8, Angel-hill, Tiverton.

JUNE 6.—**Various Places.**—PAINTING, &C.—Cleaning and painting works at Paddington, Newbury, Devonport, Winchester, Princetown, Truro, Wrexham, Chester, &c., for the Great Western Railway Co. Office of Engineer, 7, Eastbourne Terrace, Paddington.

JUNE 6.—**West Suffolk.**—PAINTING, ETC.—Painting and repairs to Council and Secondary Schools at Aldham, Glemsford, Great Wratting, Newmarket St. Mary, Haverhill, Long Melford Cookery Room, Sudbury, Sudbury Grammar School, and the County School, Bury St. Edmund's, for the West Suffolk C.C. Mr. A. Ainsworth Hunt, County Architect, 51a, Abbeygate-street, Bury St. Edmund's.

✱JUNE 6.—**Wolverhampton.**—HOUSES.—Erection of 50 houses (in pairs) on the Oxley Estate. First instalment for the County Borough Council. Director of Housing, Town Hall, Wolverhampton. Deposit £2 2s.

JUNE 7.—**Barnsley.**—HOUSES.—Erection of eight Class "B" dwelling-houses on the Race-common-road Housing Site, for the T.C. Borough Engineer, Manor House, Barnsley. Mr. A. D. Mason, Town Clerk.

JUNE 7.—**Coventry.**—SORTING OFFICE.—Erection of a new sorting office, at Coventry, for H.M. Office of Works. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1. Deposit, £1 1s.

JUNE 7.—**Downham.**—BOILER HOUSE, &C.—Erection of a boiler house, with heating apparatus and additions, at St. Edmund's Church, Downham, Norfolk. Mr. F. R. Dye, Old Forester's Hall, Market-place, Downham.

JUNE 7.—**Sheerness.**—CONVENIENCE.—Erection of public convenience, for the U.D.C. Surveyor, Municipal Offices, Sheerness.

JUNE 7.—**Wangford.**—HOUSES.—Erection of cottages at Mettingham, one pair; North Cove, two pairs; Redisham, one pair; Ringsfield, one pair; St. Andrew's, two pairs; St. Cross, one pair; St. James, two pairs; St. Margaret Ilketshall, one pair; St. Michael, one pair, for the R.D.C. Mr. A. F. Royds, architect, 2, Gray's Inn-square, W.C. Deposit £2 2s.

JUNE 7.—**Wood Green.**—REPAIRS.—For repairs to several schools, for the U.D.C. Mr. C. H. Croxford, Surveyor to Education Committee, Town Hall, Wood Green, N. Deposit, £1 1s.

JUNE 8.—**East Stow.**—HOUSES.—Erection of six pairs of houses at Stowupland, for the R.D.C. Messrs. Hunt & Coates, architects, 51, Abbeygate-street, Bury St. Edmund's. Deposit £3 3s.

JUNE 8.—**Hanley, Staffs.**—HUTTING.—Erection of hutting accommodation and alterations to the Employment Exchange at Hanley. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1. Deposit, £1 1s.

JUNE 8.—**Neath.**—ALTERATIONS.—Alterations and additions to Glamorgan Farm School, Ty-Segur, Neath, for the C.C. County Architect's Office, Metropolitan Chambers, Neath.

JUNE 8.—**Paddock Wood.**—COTTAGES, &C.—Erection of (*a*) pair of cottages and two sets of farm-buildings at Badsell Farm, near Paddock Wood; (*b*) cottage and set of farm-buildings near Ham Hill, Birling, for the Kent Agricultural Committee. Mr. A. Barker, County Land Agent, 27, High-street, Maidstone.

JUNE 8.—**South Rotherham.**—WHITEWASHING.—For whitewashing, colour washing, &c., at the Swallownest Hospital, for the South Rotherham, Handsworth, and Kiveton Park District Joint Isolation Hospital Committee. Messrs. Creswick & Son, 9, East Parade, Sheffield.

JUNE 8.—**Various Places.**—PAINTING.—(1) Cleaning and painting stations, etc., Bedford and Hitchin; (2) Goods depots, Walsall and Wolverhampton; (3) Kentish Town passenger station and loco; (4) Goods depot, Bow, London; (5) Rental property at Normanton, Sandal and Walton, and Royston; (6) Station buildings, etc., Monk Bretton, Ryland Sidings, and Barnsley passenger and goods stations; (7) Station buildings, etc., at Grindleford to Edale; for the Midland Railway Co. Engineer's Offices, Derby Station.

JUNE 9.—**Bristol.**—PAINTING.—Painting and other works proposed at the Bristol Grammar School, for the Governors. Sir Frank W. Wills & Sons, architects, 15, Orchard-street, Bristol. Deposit £1 1s.

JUNE 9.—**Kidderminster.**—ALTERATIONS.—Alterations to the Employment Exchange. Contracts Branch, King Charles-street, London, S.W. 1. Deposit, £1 1s.

JUNE 9.—**St. Annes-on-Sea.**—ALTERATIONS.—Alterations to the War Memorial Hospital, St. Annes-on-the Sea, and erection of an Operating Theatre. Mr. H. J. Carmont, Town Hall, St. Annes-on-the-Sea. Deposit, £1 1s.

JUNE 10.—**Belfast.**—VILLA.—Erection of villa residence in Crumlin-road, for Mr. A. Bruce. Mr. J. V. Brennan, architect, Belfast Bank Chambers, Belfast.

JUNE 10.—**Friern Barnet.**—HOUSES.—Erection of 150 houses of various types, for the U.D.C. Mr. F. H. Shearley, 1, Featherstone Buildings, High Holborn, W.C. 2. Deposit £2 2s.

JUNE 10.—**Hammersmith.**—SHOPS, FLATS AND COTTAGES.—(*a*) Erection of 12 shops with 36 flats over, in two blocks, fronting the Central-square; and (*b*) 28 "A3" type houses for the Borough Council. Messrs. Hare & Lisle, architects, 2, Gray's Inn-square, W.C.2, and Mr. M. J. Dawson, 9, New Square, W.C.2. Deposit £2 2s.

JUNE 10.—**Huntly.**—HOUSES.—Erection of eight houses, for the T.C. Mr. Thos. G. Archibald, architect, Huntly.

JUNE 10.—**Warrington.**—PAINTING.—For painting and decorating various schools, for the T.C. Mr. Andrew M. Kerr, Borough Engineer, Warrington.

✱JUNE 11.—**Egham.**—HOUSES.—Erection of 16 houses at Pooley Green, for the U.D.C. Mr. W. Menzies, F.S.I., Engerfield Green, Surrey. Deposit £2 2s.

JUNE 11.—**Hengoed.**—REPAIRS.—Repairs to police cottage, for the Glamorganshire Standing Joint Committee. Mr. T. Mansel Franklin, Clerk, Glamorgan County Hall, Cardiff.

✱JUNE 11.—**Marylebone, W.**—REPAIRS.—Painting, cleansing and other works at the Infirmary, Rackham-street, North Kensington, and Nos. 44, 46 & 58, St. Charles-square, W. 10, for the Guardians of the Poor of the Parish of St. Marylebone. Work to commence July 4. Steward of the Infirmary, Rackham-street, North Kensington. Deposit, £1.

JUNE 11.—**Ormskirk.**—HOUSES.—Erection of 32 houses, for the U.D.C. Council Offices, Burscough-street, Ormskirk. Deposit £3 3s.

JUNE 11.—**Rochford.**—PAINTING.—External painting and other work at eight Council cottages at Great Stambridge, for the R.D.C. Mr. A. C. Madge, Sanitary Inspector, Rochford.

JUNE 11.—**Skewen.**—ALTERATIONS, &C.—For alterations and hot water installation at police station, Skewen. Mr. T. Mansel Franklin, Clerk, Glamorgan County Hall, Cardiff.

JUNE 11.—**Todmorden.**—HOUSES.—Erection of 88 houses, for the T.C. Mr. J. A. Heap, Borough Engineer, Municipal Offices, Todmorden.

JUNE 13.—**Caerphilly.**—HOUSES.—Erection of 28 houses at Graig-y-Vedw, Abertridwr, for the U.D.C. Messrs. J. H. Phillips & Wride, architects, 7, Pembroke-terrace, Cardiff.

JUNE 13.—**Chelmsford.**—PAINTING.—Execution of works of painting and colour washing at certain schools, for the T.C. Borough Engineer's Office, Chelmsford.

JUNE 13.—**Greenwich.**—HOUSES.—Erection of 128 pairs of houses on the Charlton housing estate, for the B.C. Town Clerk's Dept., Town Hall, Greenwich. Deposit £2 2s.

JUNE 13.—**Hull.**—HOUSES.—Erection of 130 houses, being the first section of the Cottingham Road Housing Scheme, for the T.C. Mr. Joseph H. Hirst, City Architect, Guildhall, Hull. Deposit £2 2s.

JUNE 13.—**Hull.**—MESS ROOM.—Erection of a mess-room at the west end, King George Dock, Hull, for the Hull Joint Dock Committee. Mr. A. Pollard, architect, North-Eastern Railway, York.

JUNE 13.—**Seaton Delaval.**—HOUSES.—Erection of Type "B" houses at Seaton Delaval, New Hartley, and Seaton Sluice, for the U.D.C. Mr. Anthony Dorin, Council Offices, Seaton Delaval.

JUNE 13.—**Sunderland.**—ALTERATIONS.—Alterations and additions to St. James's Church, Villiers-street, for the purposes of a junior technical school, for the T.C. H. Craven, Town Clerk, Town Hall, Sunderland. Deposit £3 3s.

JUNE 14.—**Crewe.**—ALTERATIONS.—Alterations to Crewe Station Sorting Office. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W. 1. Deposit, £1 1s.

JUNE 14.—**Southport.**—HOUSES.—Erection of 16 houses, for the T.C. Borough Engineer, Southport. Deposit, £2 2s.

JUNE 14.—**Thorne.**—HOUSES, &C.—(*a*) Erection of 10 houses on Low Bank site, 14 houses on Bearswood Green site, 36 houses on the Dunscroft site in the parish of Hatfield; (*b*) construction of necessary roads and sewers in connection therewith, for the R.D.C. Messrs. F. Hopkinson & Co., Ltd., architects, Worksop. Deposit £2 2s.

JUNE 14.—**Walthamstow.**—PAINTING, &C.—Certain works of school renovation in painting, colouring, &c., to various schools, for the U.D.C. Mr. H. Prosser, Architect to the Committee, 263 High-street, Walthamstow, E.17.

JUNE 15.—**Ardrossan.**—HOUSES.—Erection of fourteen houses, for the T.C. Joint Town Clerks, Burgh Chambers, Ardrossan. Deposit £1 1s.

JUNE 15.—**Chorley.**—HOUSES.—Erection of 112 houses on the Pilling-lane-Harrison-road site, for the T.C. Borough Surveyor, Town Hall, Chorley. Deposit £2 2s.

JUNE 15.—**Lymington.**—HOUSES.—Erection of 14 houses, for the T.C. Mr. J. Bevir, architect, St. Thomas-street, Lymington. Deposit £1 1s.

JUNE 16.—**France.**—Fourth programme of construction, consisting of approximately 23 Cemeteries in France. Applications for tender documents should be addressed: Contract 1921 D., Secretary (Works Dept.), Imperial War Graves Commission, 82 Baker-street, London, W. 1. Deposit, 15 guineas.

JUNE 16.—**Retford, Notts.**—BUILDING.—Erection of a new Post Office at Retford. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W. 1. Deposit, one guinea.

JUNE 17.—**Coventry.**—BUILDING.—Erection of a new sorting office at Coventry. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1. Deposit £1 1s.

JUNE 17.—**Gellygaer.**—TRANSFORMER STATION.—Erection of electricity Sub-station, for the U.D.C. Mr. P. Jones Williams, Architect, Council Offices, Hengoed. Deposit £1 1s.

JUNE 17.—**Lancaster.**—BUILDING.—Erection of additional buildings at Rufford Hall Sanatorium. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1. Deposit, £1 1s.

✱JUNE 18.—**Bawtry.**—HOUSES.—Laying out roads, &c., and erecting 93 houses, for the R.D.C. Messrs. Walker & Thompson, architects and surveyors, Oriel Chambers, 1, Baxter Gate, Doncaster. Deposit, £2 2s.

JUNE 18.—**Glossop.**—ALTERATIONS, &C.—Taking down the present cookhouse, &c., at the Poor Law Institution and for rebuilding same; also for providing and fitting modern steam cooking apparatus. Master of the Poor Law Institution, Glossop. Deposit £2 2s.

✱JUNE 22.—**Essex, Sussex, and London.**—ERECTION OF HUTS, ALTERATIONS, REPAIRS.—(1) Erection of two huts at T.S. "Exmouth" Infirmary, Westfield House, Grays, Essex; (2) erection of a hut at High Wood, Brentwood, Essex; (3) certain alterations at Millfield, Rustington, near Littlehampton, Sussex; (4) erection of a hut for night officer, Charing Cross, S.W.; (5) general repairs, North-Western Fever Hospital, Lawn-road, Hampstead, for the Metropolitan Asylums Board. Office of the Board, Embankment, E.C.4. Deposit £1.

✱JUNE 22.—**Kent.**—PAINTING WORKS AND REPAIRS.—Painting works and repairs at Long Reach Hospital, Dartford, for the Metropolitan Asylums Board. Office of the Board, Embankment, E.C.4. Deposit £1.

✱JUNE 22.—**London.**—PAINTING, &C.—Painting and cleaning, for Metropolitan Asylums Board (1) Millfield, Rustington, nr. Littlehampton, Sussex; (2) St. Pancras Casual Ward, Holmes-road, Kentish Town, N.W.5; (3) Woolwich Casual Ward, Hull-place, High-street, Plumstead, S.E.18; (4) Lambeth Casual Ward, Wincott-street, Kennington-road, S.E.11; (5) Collindale Hosp., Collindale-avenue, Hendon, N.W.9. Office of the Board, Embankment, E.C.4. Deposit £1 for each work.

✱JUNE 22.—**London, S.E.**—OAK FENCING.—Oak fencing at the Cedars, Belmont-hill, Lee, Lewisham, S.E.13, for the Metropolitan Asylums Board. Office of the Board, Embankment, E.C.4 Deposit £1.

JUNE 22.—**Rossington.**—PLASTERING.—Erection of new school at Rossington (plasterer's work), for the West Riding C.C. West Riding Education Architect, County Hall, Wakefield.

JUNE 24.—**Menston.**—PAINTING.—Painting of Menston Council School, for the West Riding E.C. West Riding Education Architect, County Hall, Wakefield.

JUNE 26.—**Bristol.**—BUILDING.—Construction of an engine house and other works at Cheddar, for the Bristol Waterworks Co. Messrs. T. & C. Hawksley, Civil Engineers, 62, Broadway, Westminster, S.W., or at the Office of the Company.

✱JUNE 27.—**Crewe.**—HOUSES.—Erection of 195 houses on the Alton-street site, for the Borough Council Mr. L. St. G. Wilkinson, Borough Engineer and Surveyor, Municipal Buildings, Crewe. Deposit £2 2s.

JUNE 27.—**Great Horton.**—PAINTING.—Painting of interior of the Horton Bank P.M. Church. Mr. J. H. Dobson, 16, Cresswell Mount, Old-road, Great Horton, Bradford.

✱JUNE 27.—**Hendon.**—HOUSES.—Erection of 50 houses at Biltacy Hill, Mill Hill, N.W.7, for the U.D.C. Mr. A. O. Knight, Engineer and Surveyor to the Council, Town Hall, Hendon, N.W.4. Deposit £10 10s.

✱JUNE 27.—**Holsworthy.**—HOUSES.—Amended tenders for the erection and completion of 68 houses in various parishes for the U.D.C. Mr. M. V. Treleaven, Council's Architect, Bude, Cornwall. Deposit, £2 2s.

✱JUNE 27.—**Surbiton.**—HOUSES.—Erection of 48 houses at Polworth and Surbiton Hill, for the U.D.C. The Clerk, Council Offices, Ewell-road, Surbiton. Deposit £1 1s.

✱JUNE 27.—**Wombwell.**—HOUSES.—Erection of 386 houses on a site at King's-road, Wombwell, for the U.D.C. Mr. D. H. Roberts, M.S.A., architect, Park-street, Wombwell. Deposit £2.

JUNE 30.—**Pulborough.**—COTTAGES.—Erection of 30 cottages in various parishes for the R.D.C. Mr. Percy Ayling, Clerk to the Council, Council Offices, Storrington, Pulborough.

NO DATE.—**Basingstoke.**—HOUSES.—Erection of 32 houses, for the R.D.C. Messrs. Wallis & Smith, architects, Cross-street, Basingstoke.

NO DATE.—**Grantham.**—HOUSES.—Erection of 38 houses, for the T.C. Mr. F. O. Donaldson, Borough Architect Guildhall, Grantham. Deposit, £2 2s.

NO DATE.—**Guyhirn.**—REPAIRS.—For extensive repairs to Guyhirn Church. Rev. M. B. George, Guyhirn Vicarage, Wisbech.

NO DATE.—**Ogmore and Garw.**—HOUSES.—Erection of semi-detached cottages at Llangeinor and Nantymoel, for the U.D.C. Mr. A. H. Jenkins, Housing Surveyor, Council Offices, Brynmenyn, nr. Bridgend. Deposit £2 2s.

NO DATE.—**Perth.**—THEATRE.—Erection of New Alhambra Theatre, Perth. Mr. A. K. Beaton, architect, Perth.

NO DATE.—**Walsall.**—HOUSES.—Erection of 40 houses on the Pelsall Lane Site, Rushall, for the R.D.C. Mr. Gerald McMichael, architect, 105, Colmore-row, Birmingham. Deposit £2 2s.

FURNITURE, MATERIALS, etc.

JUNE 8.—**Dublin.**—MATERIALS.—Supply of stores to the Great Southern & Western Railway Co. (Ireland). Stores Superintendent, General Stores Department, Inchicore, Dublin.

JUNE 9. — **Nottingham.** — MATERIALS. — Supply of materials to the Works and Ways Committee. Mr. A. Brown, City Engineer, Guildhall, Nottingham.

✱JUNE 10.—**Barking.**—SCHOOL FURNITURE.—Supply of school furniture for the new Special Schools Centre (accommodating 320 children) in Hulse-avenue, Barking. Mr. C. J. Dawson, Clock House Chambers, Barking. Architect to the Urban District Council, Clock House Chambers, Barking. Deposit £2 2s.

JUNE 11.—**London.**—STORES.—Supply of stores, &c. to the Metropolitan Water Board. Chief Engineer, New River Head, 173, Rosebery-avenue, E.C.1.

JUNE 13.—**Egypt.**—STORES.—Supply of general stores to Ports and Lighthouses Administration. Dept. of Overseas Trade, 35, Old Queen Street, S.W.1.

JUNE 14.—**Aberdeen.**—RAILWAY STORES.—Supply to the Great North of Scotland Railway Co. of stores for six months. Stores Superintendent, 80, Guild-street, Aberdeen. Charge 1s. per form.

JUNE 14.—**West Ham.**—MATERIALS.—Supply of builders' materials, fittings, etc., for three months, for the Board of Guardians. Mr. T. Smith, Clerk, Union Offices, Leytonstone, E.

JUNE 15.—**Reigate.**—MATERIALS.—Supply of road materials to the T.C. Mr. F. T. Clayton, Borough Surveyor, Reigate.

JUNE 24.—**Romney.**—ROCK.—Supply of about 1,000 cords of rock suitable for paving sea wall. Mr. Frank Elliott, Dymchurch, Kent.

ENGINEERING, IRON AND STEEL.

JUNE 6.—**Ashton-under-Lyne.**—ELECTRIC LIGHTING.—For electric lighting of tramways depot and shelter, for the T.C. Borough Electrical Engineer, Ashton-under-Lyne.

JUNE 6.—**Camberwell.**—MOTOR VEHICLES.—Supply of two mechanically propelled vehicles, one to be used in the collection of road sweepings, the other for transport of roadmaking and other materials, for the B.C. Mr. Frederick J. Slater, Borough Engineer, Town Hall, Camberwell, S.E.5.

JUNE 6.—**Cowes.**—PIPES.—Supply of 450 yards 4 in. cast-iron pipes, to the U.D.C. Surveyor, Council Offices, Cowes, I.W.

JUNE 6.—**Tiverton.**—WATER SUPPLY.—For the driving of an adit and other works at Paceycombe, Bradninch, for the R.D.C. Mr. R. Ellis, Sanitary Inspector, Tiverton.

JUNE 7.—**Brighton.**—OIL FUEL BURNING INSTALLATION.—Supply and erection of oil fuel burning installation at Electricity Works. Mr. J. Christie, Engineer, Electricity Works, Brighton. Deposit, £2 2s.

JUNE 7.—**Bristol.**—WATERWORKS.—The Directors of the Bristol Water Works Co. invite tenders for trench work, laying and jointing of about 1,300 yards of 33-in. cast iron socket pipes, the construction of about 3½ miles of cast iron and stoneware sewers, drains, and mains, and construction of sewage outfall works. Messrs. John Taylor & Sons, engineers, 36, Victoria-street, Westminster, S.W.1. Deposit, £5.

JUNE 7.—**Edinburgh.**—STEEL WORKS.—For the structural steel work required in connection with the extension of car sheds at Leith Tramway Depot, for the T.C. Mr. James A. Williamson, A.R.I.B.A., Public Works Office, City Chambers, Edinburgh.

JUNE 7.—**Paddington.**—GIRDERS.—Supply of 134 tons of steel girders and other iron and steel work, to the G.W.R. Co. Engineers' Office, Paddington Station.

JUNE 7.—**Shoreditch.**—VARIOUS WORKS.—(a) Constructional steel and ironwork building; (b) 20-ton weighbridge; (c) certain high-pressure steam pipes, valves, &c., for the Electricity Committee of the B.C. Mr. C. Newton Russell, Borough Electrical Engineer, Electricity Supply Department, Coronet-street, Shoreditch, N. 1. Deposit, £1 each.

JUNE 8.—**Clapton.**—PUMPING MACHINERY.—Supply and erection of pumping machinery at Lea Bridge, Clapton, N.E., for the Metropolitan Water Board. Chief Engineer's Department, 173, Rosebery-avenue, Clerkenwell, E.C. 1. Deposit, £3 3s.

JUNE 8.—**London.**—METALS.—Supply to the South Indian Railway Co. (1) metals (brass, copper, lead, &c.); (2) white metal. Company's Offices, 91, Petty France, Westminster, S.W. 1. Charge, 10s.

JUNE 8.—**Ventnor.**—REPAIRS TO PIER.—Repairs to tie rods, &c., to the Royal Victoria Pier and Landing Stage, for the U.D.C. Mr. D. V. Howard, Surveyor, Town Hall, Ventnor, I.W.

JUNE 10.—**Durham.**—CAST-IRON PIPES.—Supply of about 9,000 tons of cast-iron pipes, about 5,230 ft. of heavy steel pipes, of 30 in. internal diameter, for the Durham County Water Board. T. &. C. Hawksley, Civil Engineers, 62, Broadway, Westminster, S.W.1 Deposit £3 3s. each contract.

JUNE 10. — **London.**—SPRINGS.—Supply to the Bombay, Baroda, and Central India Railway Co. (1) Helical and volute springs; (2) laminated springs. Mr. S. G. S. Young, Secretary, 91, Petty France, Westminster, S.W. Charge £1 (1), 10s. (2).

JUNE 11.—**Hackney.**—AMBULANCE.—For a petrol or electric motor ambulance, for the Board of Guardians. Clerk to the Guardians, Hackney Union, 2, Sidney-road, Homerton, E. 9.

JUNE 11. — **Penshaw.** — STREET LIGHTING. — For alterations and extensions to street lighting of parish. Mr. J. H. Laws, Clerk, Hodgson House, New Penshaw.

JUNE 15.—Walton-on-Thames.—PUMPING MACHINERY.—Supply and erection of pumping machinery near Walton-on-Thames, Surrey, for the Metropolitan Water Board. Mr. Henry E. Stilgoe, Chief Engineer, Offices, Rosebery-avenue, E.C. Deposit, £5.

JUNE 17.—**Manchester.**—TRANSFORMERS. — Supply and erection of static transformers during twelve months. Mr. F. E. Hughes, Secretary, Electricity Department, Town Hall, Manchester. Deposit £1 1s.

JUNE 20.—China.—BRIDGE.—The Peking-Hankow Line (Chinese Government Railways) invites sealed proposals for designing and building a new steel bridge, about 2,000 metres in length, across the Yellow River (Hoangho). Plans, &c., by telegraph from the following offices: Peking-Hankow Railway, Peking, China; Chinese Legation, London; British Legation, Peking, China. Deposit, £6.

JUNE 21.—**Finland.**—RAILS AND ACCESSORIES.—Supply to the Central Administration of the Finland State Railways of: 5,000 tons of steel rails; 220 tons of fish plates; 650 tons of sole plates. Department of Overseas Trade, 35, Old Queen-street, S.W.1.

JUNE 22.—**Stocksbridge.**—HEATING, &C.—(1) Installation of new boiler; (2) improvement of gas lighting, at Stocksbridge Works Council School. West Riding Education Architect, County Hall, Wakefield.

JUNE 24.—**Yeadon.**—HEATING APPARATUS.—Alterations to heating apparatus and installation of new boiler at Yeadon South View School. West Riding Education Architect, County Hall, Wakefield.

JULY 5.—**South Africa.**—GRAIN ELEVATORS.—**The South African Railways and Harbours authorities have extended the date for tenders for grain elevators to July 5, 1921. Mr. R. A. Blankenberg, Secretary, Office of the High Commissioner for the Union of South Africa, Trafalgar-square, W.C. 2.**

JULY 26.—**Bombay.**—WATER WORKS.—**The invitation for tenders for the construction of 105 miles of steel and reinforced concrete pipe lines in connection with the water scheme for the Corporation, has been extended to July 26. Messrs. J. Taylor & Son, 36, Victoria-street. Deposit, £2.**

AUGUST 3. — **Bulawayo.** — ELECTRICAL PLANT. — Supply of electric light and power plant to the Municipality of Bulawayo, Rhodesia. Messrs. Davis & Soper, agents, 54, St. Mary Axe, London, E.C. Deposit, £3 3s.

AUGUST 20.—**Mansfield.**—SALVAGE PLANT.—Erection of salvage plant at the Health Depot, comprising: (1) Refuse screening plant in two units, with total capacity of 100 tons per day, cinder washers, elevators and conveyors; (2) steel-framed building; (3) extension of tipping platform, for the T.C. Mr. Waude Thompson, Borough Engineer, Market-street, Mansfield. Deposit, £2 2s.

AUGUST 29. — **Johannesburg.**—MACHINERY.—Erection of machinery, &c., for extension of by-products plant, municipal abattoirs, Johannesburg. Messrs. E. W. Carling & Co., St. Dunstan's-buildings, St. Dunstan's-hill, London. E.C.3. Deposit, £1 1s.

SEPTEMBER 9.—**South Africa.**—FILTER PLANT.—Supply and erection for the Rand Water Board of a complete installation of mechanical or other filters capable of filtering 5½ million gallons of water per 24 hours at the Vereeniging Main Pumping Station. Enquiry Room of the Department of Overseas Trade, 35, Old Queen-street, Westminster, S.W.1.

ROAD, SANITARY, AND WATER WORKS.

JUNE 6.—**Newport (Mon.).**—EXCAVATIONS.—For excavating the site of new Out-patients' Department at the Royal Gwent Hospital, Newport, Mon. Messrs. Griggs & Vaughan, architects, Metropolitan Bank-chambers, Newport, Mon.

JUNE 7.—**Ayr.**—ROAD.—Formation of a new road (about 1 mile in length) from near Patna Station to Lethanhill, for the Ayrshire District Committee. Mr. Allan Stevenson, engineer, 14, Cathcart-street, Ayr.

JUNE 7.—**Gellygaer.**—ROADS.—For tar-spraying and gritting a length of about three miles of road, for the U.D.C. Mr. F. Read, Surveyor, Council Offices, Hengoed, Glam.

JUNE 8.—**Castleford.**—STREET WORKS.—For private street works in Jessop-street, for the U.D.C. Mr. C. Marshall, Clerk, Town Hall, Castleford. Deposit £2 2s.

JUNE 8.—**Cobh, Queenstown.**—SANITARY.—Execution of sanitary improvements at Cobh Technical School, Mervue, for the Technical Instruction Committee. Mr. J. H. Campbell, secretary, Sunmount, Cobh. Deposit, £5.

JUNE 8.—**Middleton.**—CULVERT.—Erection of a culvert, 80 ft. in length, in brick and concrete, &c., for the T.C. Tenders for a similar culvert, in reinforced concrete, from firms specialising in this class of work will also be considered if full details of proposed system, &c., are submitted with the tender. Borough Engineer, Town Hall, Middleton, Lancs. Deposit £2 2s.

JUNE 10.—**Cumberland.**—SANITARY.—Drainage work in connection with latrines at Broughton Moor Council School and Aspatria Council School, for the Cumberland E.C. Mr. J. Forster, County Architect, The Courts, Carlisle. Deposit £1 1s.

JUNE 11.—**Pontardawe.**—DRAINAGE.—Land drainage &c., at Pontardawe Police Station. Mr. T. Mansel Franklen, Clerk, Glamorgan County Hall, Cardiff.

JUNE 13.—**Armadale.**—ROADS.—For various road works, for the T.C. Mr. Robert Bamberry, Burgh Surveyor, Armadale.

JUNE 13.—**Caerphilly.**—ROADS.—Construction of roads and sewers at Graigyfedw, Abertridwr, for the U.D.C. Mr. T. H. Richards, Surveyor, Council Offices, Caerphilly. Deposit £2 2s.

JUNE 13.—**Easington.**—ROADS AND SEWERS.—Construction of roads and sewers for a housing scheme at New Seaham (130 houses), for the R.D.C. Mr. J. Wilson Hays, architect, Wingate, Co. Durham. Deposit £2.

JUNE 13. — **Hull.** — SANITARY. — Conversion of privies, &c., to water closets, including drainage, at properties situate in Jalland-street, Durham-street, &c., Area A; also Somerset-street, Area B; Holderness-road and Hessle-road, for the T.C. Mr. Joseph H. Hirst, City Architect, Guildhall, Hull.

JUNE 22.—**Ilkley.**—PLAYING FIELDS.—Formation of playing fields on the vacant land adjoining Ben Rhydding Council School. West Riding Education Architect, County Hall, Wakefield.

✱JUNE 22.—**London, S.E.**—ROAD REPAIRS.—Separate tenders are invited for road repairs (1) South-Eastern Fever Hospital, Avonley-road, New Cross, S.E.14; (2) Park Fever Hospital, Hither-green, Lewisham, S.E.13, for the Metropolitan Asylums Board. Office of the Board, Embankment, E.C.4. Deposit £1.

✱JUNE 27.—**Hendon.**—SEWAGE.—Completion of the sewage disposal works, Renters-lane, Hendon, and the construction of about 407 yards lineal of 33 in. concrete tube sewer with manholes, for the U.D.C. Mr. A. O. Knight, Engineer and Surveyor to the Council, Town Hall, Hendon, N.W.4. Deposit £10 10s.

Auction Sales, Tenders, etc.

JUNE 7.—**Holloway, N.**—Messrs. Joseph Hibbard & Sons will sell, upon the premises, No. 18, Bardwell-street, North-road, plant, machinery and stock of packing case manufacturers. Auctioneers, Newington Green, Islington, London, N.16.

JUNE 9.—**Chislehurst, Kent.**—Messrs. Knight, Frank and Rutley will sell, in the Hanover-square Estate Room, the freehold building site known as "The Bush," Chislehurst-road, including Lodge Cottage. Auctioneers, 20, Hanover-square, W.1.

JUNE 9.—**Shooters Hill.**—**Messrs. Knight, Frank & Rutley will sell in the Hanover Estate Room, freehold building land extending to about 52¾ acres, on the Shrewsbury Estate. Auctioneers, 20, Hanover-square, London, W. 1.**

✱JUNE 10.—**Croydon.**—Messrs. C. P. Whiteley & Sons, will sell at the London Auction Mart, 155, Queen Victoria-street, E.C., the Whitgift Saw Mills, 52, Church-road, near the Town Hall, freehold manufacturing premises, etc. Auctioneers, 82, Queen-street, Cheapside, E.C.

JUNE 15.—**London, E.C.**—Messrs. Baxter, Payne & Lepper will sell by auction, by order of the Trustees, at 155, Queen Victoria-street—Grove Park, Kent, consisting of: Lot 1, freehold building land at Chinbrook-road (area about 3a. 0r. 23p.); Lot 2, freehold meadow land adjoining S.E. & C. Rly. (area about 43a. 1r. 27p.), with possession. Auctioneers, Bromley, Kent.

JUNE 21. — **Kent.** — Messrs. Rogers, Chapman & Thomas, jointly with Messrs. Knight, Frank & Rutley, will sell, at the Mart, 155, Queen Victoria-street, E.C., the residence known as Kelsey Park, Beckenham, with park-like lands of 17 acres. Auctioneers, 37, Bruton-street, W. 1, and 20, Hanover-square, W. 1.

✱JUNE 30.—**Old Broad-street, E.C.**—Messrs. Daniel Watney & Sons will sell (by order of the Ecclesiastical Commissioners for England) at Winchester House, Old Broad-street, City of London, Aldermanbury. Freehold with possession, one door from London Wall on west side, capital building site. Auctioneers, 4a, Frederick's-place, Old Jewry, E.C. 2.

✱JUNE 30.—**Old Broad-street, E.C.**—Messrs. Daniel, Watney & Sons will sell at Winchester House, Old Broad-street, a riverside site at London Bridge, S.E. Freehold land area, 7,220 sq. ft. Auctioneers, 4a, Frederick's-place, Old Jewry, E.C. 2.

Competitions.

(See Competition News, page 708.)

Public Appointments.

✱NO DATE.—**Nigeria.**—Foremen of Works (4) required by the Government of Nigeria for the Public Works Department, for two tours. Crown Agents for the Colonies, 4, Millbank, London, S.W. 1.

PROPOSED NEW BUILDINGS AND OTHER WORKS.*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works, at the time of publication, have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C for Parish Council.

ACCRINGTON.—An inquiry has been held into the application of the T.C. to borrow £3,000 for extensions to the cemetery.

ALFORD.—An application by the burial authority for power to raise a loan of £750 for purposes of extending the cemetery was the subject of an inquiry by Major Stewart, on behalf of the Ministry of Health.

AYLESBURY.—The Board of Guardians has under consideration alterations to the laundry at the Infirmary at an estimated cost of £800.

BEDWELTY.—At a meeting of the U.D.C. a resolution was passed giving authority to obtain a further £20,000 for the Garden City Housing Scheme.

BRIDLINGTON.—Plans passed by T.C.: Messrs. Waite & Vaux, alterations to Sands Cottage, Sewerby Sea Defences, for the Bridlington Development Co.; Mr. M. B. Parkin, alterations to outbuilding at Ivy Lodge, Bessingby-road, for Mr. W. H. Elsom; Mr. J. R. Earnshaw, house, James-street, for Mr. J. Weldon; Mr. J. R. Earnshaw, house, James-street, for Mr. F. Spink; Mr. C. F. Johnson, house, James-street, for Mrs. D. Saunders; Mr. M. Walkington, house, Bedford-grove, for Mr. M. Walkington; Mr. J. R. Earnshaw, two houses, Lamplugh-road, for Mr. A. Russling; Mr. J. R. Earnshaw, house, Lamplugh-road, for Mr. A. Russling; Mr. J. R. Earnshaw, two houses, James-street, for Mr. E. Gray; Mr. J. R. Earnshaw, additions to house, Lamplugh-road, for Mr. A. Russling; Messrs. J. Taylor & Son, garage and greenhouse to "Norton Villa," Bessingby-road, for Mr. H. C. Rawdon; Mr. M. B. Parkin, alterations to "Cliffcote," Marine-drive, for Mr. F. L. Lane. Mr. F. C. Cooke, an Inspector of the Ministry of Transport, has held an inquiry into the application of the T.C. to borrow £17,400 for street and other improvements.

BRIGHTON.—It is proposed to extend Lewes-road tram track some 600 ft. north of the present terminus. The cost involved is £4,880.

CARDIFF.—The Ministry of Health has approved of the application of the T.C. to proceed with a town-planning scheme over a large area to the south and west of the city.

CROFT.—The Housing Commissioners have approved, of the R.D.C. expending £956 on alterations to Barton parish hall.

DENHAM.—The Middlesex County Surveyor has been authorised to construct a road on the Denham Place estate, at an estimated cost of £600.

DONCASTER.—In the course of a County Council inquiry into the application of the Doncaster R.D.C. to unite the townships of Barnby Dun and Kirk Sandale, Mr. F. Slocombe, general manager for Messrs. Pilkington, said that between 300 and 400 houses were in course of erection, and it was estimated that in five years there would be a population of 10,000.

DURBAN.—H. M. Senior Trade Commissioner in South Africa has forwarded a copy of the Bill and plans relating to the new Durban Water Supply Scheme. These may be inspected by United Kingdom firms interested, on application to the Enquiry Room, Department of Overseas Trade, 35, Old Queen-street, London, S.W. 1.

GOLCAR.—The U.D.C. has decided to proceed with the construction of certain sewage works.

HORSHAM.—The Electricity Commissioners have approved of the plans submitted for the extension of the electricity works.

LICHFIELD.—The Justices have passed plans submitted by Mr. R. J. Barnes for alterations at the Palladium.

LONDON (EAST HAM).—Plan passed by B.C.: Market, Myrtle-road and Wakefield-street, for Mr. E. G. Wilks.

LONDON (HACKNEY).—Plans passed by B.C.: Drainage work at L.C.C. store premises, Portland-avenue, for Mr. J. C. Mather; sanitary works, 51, Middlesex Wharf, for Mr. E. Townsend; sanitary works, 57, Hackney-grove, for Messrs. Barrett & Power. Plans for drainage have been passed as follows: At four houses, Dunlace-road, for Mr. W. T. Dryden; at 3 houses, Overbury-street, for Mr. T. Dryden; at 19, Tower-street, for Messrs. T. & A. S. Haseldine, at 186, Mare-street, for Messrs. Barrett & Power; at 56, Foulden-road, for Mr. H. Gilbert; at 148, Powerscroft-road, for Messrs. J. Lilley & Sons.

LONDON (HAMMERSMITH).—Drainage plans passed by B.C.: At 48, Church-road, for Messrs. Nichols Bros.; 17, Richford-street, for Mr. W. Jenkinson.

LONDON (HAMPSTEAD).—The Middlesex C.C. has decided to make a grant to the managers of the Barnett School, for additional temporary buildings.

LONDON (TOTTENHAM).—The Middlesex C.C. proposes to construct an extension of the New Cambridge-road, from Lordship-lane to Downhills-road, at an estimated cost of £45,490, if the Ministry of Transport will contribute 50 per cent. of the cost.

MANSFIELD.—The T.C. has decided to refer to the Ministry of Health the question whether it should now consider plans presented by a local firm for a cinema.

REIGATE.—The R.D.C. has passed plans of a pair of houses to be erected at Horley, a house at Kingswood, and six bungalows (four at Chaldon and one each at Betchworth and Hooley, Merstham).

SHARDLOW.—The Board of Guardians are asking the Ministry of Health to consent to the expenditure of £3,421 on a heating scheme for the Institution.

STOCKTON.—The R.D.C. has passed plans for the erection of three bungalows in the Egglescliffe district, for two brick shops and a temporary wooden shop at Haverton-hill.

FIRES

BILLINGBOROUGH.—A fire has occurred on the farm premises of Sempringham House, near Billingborough, belonging to the Crown, and in the occupation of Mr. W. E. Dickins.

BRADFORD.—Fires have occurred at a building occupied by the Horcroft Dyeing Co., and at the Bolwing Dye Works of Messrs. E. Ripley & Son.

CHEPSTOW.—The Pavilion Theatre has been completely destroyed by fire.

HALSTEAD.—The extensive saw mills and wood turning works of Messrs. Cocksedge & Sons has been destroyed by fire.

LINCOLN.—Damage has been caused by fire on the premises of Mrs. Janet Forman, costumier, 167, High-street.

LITTLE THURROCK.—A fire has occurred in a warehouse belonging to Mr. Albert Lord, tailor, &c., Rosedale-road.

LONDON (WESTMINSTER).—A fire has occurred in the offices of the Regent Film Co., Wardour-street.

PERTH.—Damage to the extent of over £10,000 has been caused by an outbreak of fire in the workshop of Messrs. James M'Ewan & Co., silk mercers, St. John's-street.

WHITFIELD.—A destructive fire, broke out at the Whitfield Colliery of the Chatterly-Whitfield Colliery Co., Ltd., last week, and caused damage to building and machinery to the extent of £7,000 or £8,000.

YORK.—Damage estimated at several thousand pounds has been caused by a fire which occurred at the Toft Green works of the Armstrong Oiler Co., Ltd.

*See also our List of Contracts, Competitions, &c.

War-time Fires.

The British Fire Prevention Committee, which was founded in 1897 to promote protection of life and property from fire by the adoption of preventive measures, has just issued a Red Book, "Fire Protection During the War." On the outbreak of war the Committee's offer of scientific assistance was accepted by Government departments, Colonial Governments, police forces, and the British Red Cross; and the activities of the Committee were of great benefit to both the civil and military sides of the Government, to the Overseas Dominions, the Allied governments, and the nation generally. At the request of the War Office, the Committee surveyed various types of camps, about thirty-five camps in different commands being inspected, and, as a result, fresh regulations for fire prevention were issued, practically the whole of the Committee's recommendations being adopted. Altogether over 2,500 surveys were made, free of charge, including hospitals, depots, warehouses, workrooms, factories, camps, barracks, garages, and huts. Warnings for the prevention of fire in thirty kinds of establishments were specially drawn up, and over 550,000 copies were issued gratis. Some of these warnings were translated into Urdu and Panjabi for our Indian troops, into Arabic for use in Egypt and Palestine, into French and Flemish, and Braille for the blind. The warning dealing with air-raids was issued as a poster. The Ministry of Munitions in its notices adopted the Committee's recommendations, and the War Office repeated them in Army Orders. At the Committee's testing station eighty tests were undertaken at the instigation of the Government Research Department during 1917, 1918, and 1919. The Government made a grant to cover the expenses of these tests, but the members of the Committee who supervised the carrying out of each test did so in an honorary capacity. The organisation and administration of the Committee's war work were carried out by a sub-committee, of which the late Earl of Londesborough was Chairman, and the members were Messrs. the late Edwin O. Sachs, F.R.S.Ed., Percy Collins, J.P., F.S.S., T. C. Gilson, F.C.I.I., Ellis Marsland, F.S.A., Oswald C. Wylson, F.R.I.B.A., and Major E. C. P. Monson, F.R.I.B.A.

TRADE NEWS.

The London Shafting & Pulley Co. have removed to Northdown Works, Northdown-street, King's Cross, N.1. (Telephone, North 196).

Messrs. James Gibbons, Ltd. (15 & 16, Fisher-street, Southampton Row, W.C.), inform us that the presentation key used by their Majesties on Saturday last at the opening ceremony at Whiteley Village was specially manufactured by them.

Mr. Charles Walter Goff has beeen appointed to a seat on the board of directors of Messrs. Robt. Ingham Clark & Co., Ltd., varnish and enamel manufacturers, of West Ham Abbey. Mr. Goff is senior partner in the firm of Messrs. Goff & Penn, chairman of Messrs. William Gowland (1916), Ltd., and a director of the Coventry Chain Co., Ltd., and the Coventry Repetition Co., Ltd.

The current issue of the *Indented Bar Bulletin*, published by the Indented Bar and Concrete Engineering Co., Ltd. (Queen Anne's Chambers, Westminster, S.W. 1) contains illustrated descriptions of some recent work carried out by this firm, including stands at the Lansdown Racecourse, Bath; a large pier at Karachi; coke benches, bunkers, floors, hoppers, &c., at the Brighton and Hove Gas Co.'s works; and a bridge over the River Par, Cornwall.

At the annual general meeting of the Norwich Union Fire Insurance Society, Ltd., held recently at the head office, Surrey-street, Norwich, the Chairman, Sir Gerald H. Ryan, Bart., in presenting the report for 1920, said the net fire premium income had increased by £443,505 to £2,354,707. Losses paid and outstanding amounted to £1,110,666 net. To the reserve for unexpired risks, £173,402 was added; whilst £109,155 was carried to profit and loss. The accident premium income increased by £471,147 to £1,311,384, and the claims paid amounted to £511,964, the profit being £53,400. The close of the account showed the funds of this department to amount to £857,000. In the marine account, the premium income, including the balance brought forward, amounted to £1,476,142; and the claims and expenses to £686,986. The marine fund, including additional reserve, at the end of 1920 amounted to £789,155. The total premium income from all departments was £4,491,500. In the profit and loss account, £225,049 was credited, being the trading profits from the fire, accident and marine accounts; and interest and dividends accounted for £147,235. The total assets of the society stood at £6,102,559.

Messrs. Winget, Ltd. (24, Grosvenor-gardens, S.W.1) have issued two lists describing and illustrating their new "Westminster" concrete block-making machine and the "Winget" wagon loader. The "Westminster" is a strongly and simply constructed machine, designed for hand operation, and can be adapted to make blocks 18 in. by 9 in. by 4½ in., and slabs 18 in. by 9 in. by 2, 2½ or 3 in. thick; or by the insertion of a liner blocks and slabs of half these surface dimensions can be made two at a time. The machine will also produce six standard size bricks at one operation on the same pallet. The tamping is performed by a hinged plate, and the pallet containing the block or bricks is removed by opening the hinged front and sides of the mould. The wagon loader is of the non-collapsible type, specially designed for filling trucks and wagons with sand, cement, crushed stone and similar materials. It is fitted with elevator buckets, which are conveyed to the top of the loader where the material is automatically discharged through an adjustable chute. The loading capacity is 12 cub. yards per hour, and it is claimed that a three-ton lorry can be filled in 12 minutes. The approximate overall dimensions are:—Height, 11 ft. 6 in.; width, 3 ft. 6 in.; length, 11 ft.

PRICES CURRENT OF MATERIALS.*

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry. Since our last issue various revisions have been made.—Ed.]

BRICKS, &c.

	£ s. d.
Per 1,000 Alongside, in River Thames up to London Bridge.	
Best Stocks	5 1 6
Per 1000, Delivered at London Goods Stations.	
	£ s. d.
Flettons	3 17 0
Best Stourbridge Fire bricks	12 14 0
GLAZED BRICKS—	
Best White, Ivory, and Salt Glazed Stretchers	29 10 0
Headers	29 0 0
Quoins, Bullnose and 4½in. Flats	36 0 0
Best Blue Pressed Staffordshire	11 19 0
Do. Bullnose	12 9 0
Blue Wire Cuts	10 1 6
D'ble Str'tch'rs	38 0 0
D'ble Headers	35 0 0
One Side and two Ends	39 0 0
Two Sides and one End	40 0 0
Splays and Squints	37 10 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 under over white. Other colours, Hard Glaze, £5 10s. extra over white.

	s. d.	
Thames Ballast	17 6	per yard, delivered 2 miles radius Paddington.
Pit Sand	22 9	" "
Thames Sand	22 6	" "
Best Washed Sand	22 6	" "
¾ in. Shingle for Ferro-Concrete	22 0	" "
¼ in. " "	23 0	" "

Per ton, delivered in London area.

	£ s. d.	
Best Portland Cement	4 7 6	.. 4 13 0

80/6 alongside at Vauxhall in 80-ton lots.

Ferrocrete per ton extra on above	10 0
Best Ground Blue Lias Lime 3 12 6 at rly. depot.	

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks. The sacks are charged at 2s. 6d. each and credited at 2s. each if returned in good condition within three months.

Grey Stone Lime ..... 74s. 0d. per ton delivered.
Stourbridge Fireclay in s'cks 44s. 8d. per ton at rly. dpt.

STONE.

	s. d.
BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R.. per ft. cube	3 2½
Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R.. per ft. cube	3 5½
Do. do. delivered on road wagons at Nine Elms Depot	3 6½
PORTLAND STONE—	
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L. & S.W.R., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 11½
Do. do. delivered on road wagons at above stations, per ft. cube	5 0½
White basebed, 3d. per ft. cube extra.	
NOTE.—½d. ft. cube extra for every foot over 20 ft. *average*, and ½d. beyond 30 ft.	
YORK STONE, BLUE—*Robin Hood Quality.*	s. d.
Delivered at any Goods Station London.	
Scappled random blocks ..... Per Ft. Cube	14 5
6 in. sawn two sides landings to sizes (under 30 ft. super.) ..... Per Ft. Super	9 0
6 in. rubbed two sides, ditto ..... "	10 1
3 in. sawn two sides slabs (random sizes) "	3 11
2 in. to 2½ in. sawn one side slabs (random sizes) ..... "	2 5
1½ in. to 2 in. ditto, ditto ..... "	2 0
HARD YORK—	
Delivered at any Goods Station London.	
Scappled random blocks ..... Per Ft. Cube	9 3
6 in. sawn two sides landing to sizes (under 40ft. super.) ..... Per Ft. Super	6 6
6 in. rubbed two sides ditto ..... "	10 4
4 in. sawn two sides slabs (random sizes) "	4 11
3 in. ditto, ditto "	4 0
2 in. self-faced random flags .. Per Yard Super	12 2

WOOD.

GOOD BUILDING DEAL.

Inches	£ s.	
4 × 11	60 0	per standard
4 × 9	55 0	"
4 × 8	45 0	"
4 × 7	44 0	"
3 × 8	35 0	"
3 × 7	32 6	"
2½ × 7	32 0	"
3 × 6	30 0	"
3 × 11	55 0	"
2 × 11	55 0	"
3 × 9	35 0	"
2½ × 9	35 0	"
3 × 4½	33 0	"
3 × 4	32 0	"

PLANED BOARDS.

1 × 11	60 0	"
1 × 9	55 0	"

PLAIN EDGE FLOORING.

Inches		
¾	26/-	per square
1	30/-	"
1¼	35/-	"
1½	44/-	"
1¾	52/-	"

TONGUED AND GROOVED FLOORING.

Inches		
1	35/6	per square
1¼	44/6	"
1½	52/6	"

WOOD (*Continued*).

MATCHINGS (BEST).

Inches		
¾	22/-	per square
1½	27/-	"
1	36/-	"

BATTENS.

Inches	s. d.	
¾ × 2	3 6	per 100 ft.

SAWN LATHS.

Per bundle	0 4 9	
Dry Wainscot Oak, per ft. super, as inch	0 3 6 to	0 4 0
¼ in. do. do.	0 2 0 ..	—
Dry Mahogany—Honduras, Tabasco, African, per ft. super, as inch	0 2 6 to	0 3 0
Cuba Mahogany	0 4 0 to	0 4 6
Teak (Rangoon, Moulmein or Java), per load	75 0 0 to	85 0 0
American Whitewood planks, per ft. cube	0 18 0 to	1 4 0
Best Scotch Glue, per cwt.	10 0 0 ..	—
Liquid Glue, per cwt.	5 8 0 ..	6 15 0

SLATES.

1st quality slates from Bangor or Portmadoc in truck load delivered London area. Per 1,000 of 1,200.

		£ s. d.
Best Blue Bangor Slates,	24 by 12	56 10 0
" "	22 by 12	46 0 0
First quality " "	22 by 11	42 10 0
" "	20 by 12	42 0 0
Best Blue Portmadoc	20 by 10	36 10 0
" "	18 by 10	29 10 0
First quality "	18 by 9	24 5 0
" "	16 by 10	22 15 0
" "	16 by 8	18 0 0

TILES.

	Per 1,000 f.o.r. London. £ s. d.
Best machine-made tiles from Broseley or Staffordshire district	7 15 0
Ditto hand-made ditto	8 10 0
Ornamental ditto	7 7 6
Hip and valley tiles (per dozen)	0 15 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION PER TON—

	£ s. d.
R. S. Joists, cut and fitted	23 0 0
Plain Compound Girders	26 0 0
" Stanchions	28 0 0
In Roof Work	33 0 0

WROUGHT-IRON TUBES AND FITTINGS—
(Discount off List for lot of not less than £15 net value delivered direct from works. 5 per cent. less above gross discounts, carriage forward if sent from London stocks.)

	Tubes. ½" to 2".	Tubes. 2¼" to 6".	Fittings. ½" to 2".	Fittings. 2¼" to 6".
Gas	—10	—15 ..	—17½	—25
Water	Net	— 6½ ..	—12½	—22½
Steam	+11½	+ 3½ ..	— 7½	—20
Galv'd Gas	+10	+ 5 ..	—10	—17½
" Water	+22½	+16½ ..	— 5	—15
" Steam	+35	+27½ ..	Net	—12½

L.C.C. COATED SOIL PIPES—London Prices ex works.

	Pipe. s. d.	Bends, stock angles. s. d.	Branches, stock angles. s. d.
2 in. per yd. in 6 fts.	6 4	4 6	5 5
2½ in. "	7 3½	4 11½	6 9
3 in. "	9 0½	5 5	8 1
3½ in. "	10 0	6 9	9 5½
4 in. "	10 11½	7 8	10 9½

RAIN-WATER PIPES, &c.

	Pipe. s. d.	Bends, stock angles. s. d.	Branches, stock angles. s. d.
2 in. per yd. in 6fts. plain	5 6	3 2	4 0
2½ in. " "	6 0	3 6	4 10
3 in. " "	7 3	4 4	6 6
3½ in. " "	8 9	5 2	7 6
4 in. " "	9 9	6 3	9 3

L.C.C. DRAIN PIPES,—9 ft. lengths. London Prices. per yd.: 4 in., 13/-. .. 5 in., 16/6. .. 6 in., 19/11.

IRON—	Per ton in London. £ s. d.		£ s. d.
Common Bars	23 0 0	to	24 0 0
Staffordshire Crown Bars—good merchant quality	24 0 0	..	25 0 0
Staffordshire "Marked Bars"	30 10 0	..	32 10 0
Mild Steel Bars	20 0 0	..	21 0 0
Steel Bars. Ferro-Concrete quality, basis price	20 0 0	..	21 0 0
Hoop Iron, basis price	29 0 0	..	30 0 0
" Galvanised	43 0 0	..	45 0 0
Soft Steel Sheets, Black—			
Ordinary sizes to 20 g.	27 0 0	..	29 0 0
" " " 24 g.	28 0 0	..	30 0 0
" " " 26 g.	30 0 0	..	31 0 0
Sheets Flat Best Soft Steel, C.R. & C.A. quality—			
Ordinary sizes, 6ft. by 2ft. to 3ft. to 20 g.	35 0 0	..	36 0 0
Ordinary sizes, 6ft. by 2ft. to 3ft. to 22 g. and 24 g.	36 0 0	..	38 0 0
Ordinary sizes, 6ft. by 2ft. to 3ft. to 26 g.	38 0 0	..	40 0 0
Flat and Galvanised Corrugated Sheets—			
Ordinary sizes, 6 ft. to 9ft. 20 g.	28 0 0	..	29 0 0
Ordinary sizes, 6ft. to 9ft. 22 g. and 24 g.	29 0 0	..	30 0 0
Ordinary sizes, 6ft. to 9ft. 26 g.	31 0 0	..	33 0 0

METALS (*Continued*).

	Per ton in London. £ s. d.		£ s. d.
Sheets Galvanised Flat, Best quality—			
Best Soft Steel Sheets, 6ft. by 2ft. to 3ft. to 20g. and thicker	38 0 0	..	39 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	39 0 0	..	40 0 0
Best Soft Steel Sheets, 26 g.	40 0 0	..	41 0 0
Cut Nails, 3in. to 6in. (under 3in. usual trade extras.)	33 0 0	..	34 0 0

METAL WINDOWS—Standard sizes suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 3s. per foot super.

LEAD, &c.

	Delivered in London. £ s. d.		
LEAD Sheet, English, 4 lb. and up	35 10 0	..	—
Pipe in coils	36 0 0	..	—
Soil Pipe	38 10 0	..	—
Compo pipe	39 10 0	..	—

NOTE—Country delivery, 30s. per ton extra; lots under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 2s. cwt. extra.

Old lead, ex London area, at Mills ..... per ton	20 0 0	..	—
Do., ex country, carriage forward ..... per ton	21 0 0	..	—
COPPER—			
Strong Sheet .... per lb.	0 2 3	..	—
Thin " .... "	0 2 4	..	—
Copper nails .... "	0 2 3	..	—
Copper wire .... "	0 2 4	..	—
TIN—English Ingots "	0 1 10	..	—
SOLDER—Plumbers' "	0 0 11	..	—
Tinmen's "	0 1 2	..	—
Blowpipe "	0 1 4	..	—

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES AND IN SQUARES IN ORDINARY SIZES.

	Per Ft.		Per Ft.
15 oz. fourths	4½d.	32 oz. fourths	10½d.
" thirds	5d.	" thirds	1/-
21 " fourths	6½d.	Fluted, Obscured and	
" thirds	7½d.	Enamelled Sheet,	
26 " fourths	8d.	15 oz.	7d.
" thirds	9½d.	21 "	9d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

	Per Ft.
⅛ Rolled plate	5½d.
¼ Rough rolled	6½d.
½ Rough rolled	7½d.
Figured Rolled, Oxford Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish white	7½d.
Ditto, tinted	9½d.
Rolled Sheet	6½d.
White Rolled Cathedral	6½d.
Tinted do.	7½d.

Cast Plate is ½d. extra on the price of rough rolled.

PAINTS, &c.

	£ s. d.
Raw Linseed Oil in pipes ..... per gallon	0 3 5
" " " in barrels .... "	0 3 6
" " " in drums .... "	0 3 7
Boiled " " in barrels .... "	0 3 10
" " " in drums .... "	0 3 11
Turpentine in barrels ..... "	0 7 11
" in drums (10 gall.) .. "	0 8 2
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)	58 15 0
GENUINE WHITE LEAD PAINT— "Father Thames," "Nine Elms," "Park," "Supremus" and other best brands (in 14 lb. tins) not less than 5 cwt. lots ..... per ton delivered	80 15 0
Red Lead, Dry (packages extra) .. per ton	42 0 0
Best Linseed Oil Putty ..... per cwt.	0 18 0
Filocol ..... per cwt.	0 18 0
Size. X D Quality ..... fkn.	0 5 0

VARNISHES, &c.

	Per gallon. £ s. d.	
Oak Varnish	Outside	0 15 0
Fine ditto	ditto	0 17 2
Fine Copal	ditto	1 1 6
Pale Copal	ditto	1 2 6
Pale Copal Carriage	ditto	1 4 6
Best ditto	ditto	1 14 6
Floor Varnish	Inside	0 19 0
Fine Pale Paper	ditto	0 18 0
Fine Copal Cabinet	ditto	1 2 6
Fine Copal flatting	ditto	1 0 6
Hard drying Oak	ditto	0 18 0
Fine Hard drying Oak	ditto	0 19 0
Fine Copal Varnish	ditto	1 0 6
Pale ditto	ditto	1 2 6
Best ditto	ditto	1 14 6
Best Japan Gold Size		0 12 6
Best Black Japan		0 18 0
Oak and Mahogany Stain (water)		0 17 6
Brunswick Black		0 11 9
Berlin Black		0 16 6
Knotting (patent)		1 16 0
French and Brush Polish		1 8 0
Liquid Dryers in Terebine		0 13 6
Culrass Black Enamel		0 7 0

* The information given on this page has been specially compiled for THE BUILDER and is copyright. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

CURRENT PRICES FOR BUILDING WORK IN LONDON.*

[*Note.*—These prices have been revised.—Ed.]

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	19	0
Add if in clay	" "	1	10
Add for every additional depth of 6 ft.	" "	1	4
Planking and strutting to trenches	per foot super	0	7
Do. to sides of excavation, including shoring	" "	1	4

CONCRETOR.

		s.	d.
Portland cement concrete in foundation 1 to 6	per yard cube	51	6
Add if in underpinning in short lengths	" "	9	6
Add if in floors 6 in. thick	" "	3	10
Add if in beams	" "	4	9
Add if aggregate 1 : 2: 4	" "	14	3
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	4	3

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	48	5	0
Add if in stocks	"	11	17	6
Add if in Staffordshire blues	"	32	15	6
Add if in Portland cement and sand	"	4	10	0

FACINGS.

		s.	d.
Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	1¼

POINTING.

		s.	d.
Neat flat strucks or weathered joint	" "	0	3

ARCHES.

		s.	d.
Extra only to the price of ordinary brickwork :—			
Fair external in half brick rings	" "	0	1½
Axed in stocks	" "	1	11
Rubbed and gauged jointed in putty camber or segmental	" "	0	6 8

SUNDRIES.

		s.	d.
Damp course in double course of slates breaking joint and bedded in Portland cement	" "	0	1 6
Setting ordinary register grates and stoves	each	1	2 6
Setting kitchener, including forming flues, &c., with all necessary fire bricks	"	6	5 0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard sup.	8	0
Three-quarter-inch vertical damp course	" "	14	3
One inch on flats in two thicknesses	" "	12	0
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	6

MASON.

		s.	d.
York stone templates fixed	per foot cube	19	9
York stone sills fixed	" "	31	6
Bath stone and all labour fixed	" "	15	0
Portland stone fixed	" "	23	0

SLATER.

		s.	d.
Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	98	0
Do. 20 in. × 10 in. Do. Do.	"	115	0
Do. 24 in. × 12 in. Do. Do.	"	117	6

CARPENTER AND JOINER.

		s.	d.
Fir framed in plates	per foot cube	8	6
Do. joists	" "	9	6
Do. roofs, floors and partitions	" "	10	8
Do. trusses	" "	12	10

		¾"	1"	1¼"	2"
Deal rough close boarding	per sq.	54/-	73/-	90/-	93/-

		s.	d.
Flat centering for concrete floor, including struts or hangers	"	64	6
Do. to beams	per ft. sup.	1	9
Centres for arches	"	2	3
Gutter boards and beams	"	1	8

FLOORING.

		¾"	1"	1¼"	1½"
Deal-edges shot	per sq.		74/-	94/-	108/6
Do. tongued and grooved	"		80/-	100/-	114/-
Do. matchings	"	66/6	81/-		
Moulded skirting, including backings and grounds	per ft. sup.	2/3	2/6	3/-	3/6

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	11
Two Do. Do. Do.	" "	2	4½
Add for fitting and fixing	" "	0	6
Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares double hung, double hung with pulleys, lines and weights; average size	" "	5	3

DOORS.

		1¼"	1¾"	2"
Two-panel square framed	per ft. sup.	2/6	2/9	2/11
Four-panel Do.	"	2/10	3/2	3/5
Two-panel moulded both sides	"	3/2	3/5	3/8
Four-panel Do. Do.	"	3/6	3/9	4/-

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	21	0

		1"	1¼"	1½"
Plain deal jamb linings framed	per ft. sup.	2/1	2/3	2/6
Deal shelves and bearers	"	1/10	2/-	2/1
Add if cross tongued	"	2d.	2d.	2d.

STAIRCASES.

	1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets	3/2	3/10	4/5	—	—
Deal strings wrot in both sides and framed	4/3	4/6	—	—	—

		s.	d.
Housings for steps and risers	each	0	11½
Deal balusters, 1 in. × 1¼ in.	per ft. run.	0	9
Mahogany handrail; average 3 in. × 3 in.	" "	6	0
Add if ramped	" "	11	10
Add if wreathed	" "	23	9

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/4½
Sash fasteners	11½d.	Mortice locks	5/3
Casement fasteners	1/5	Patent spring hinges and letting in to floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	26	0
Plain compound girders	"	29	0
Do. stanchions	"	32	0
In roof work	"	37	0

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints	ft. run	1/11	2/4½	3/7	4/-
Ogee Do. Do.	"	2/4½	3/1	3/10	4/9
Rain-water pipes with ears	"	2/9	3/7		
Extra for shoes and bends	each	4/4	5/11		
Do. stopped ends	"	1/11	2/4½	3/7	4/-
Do. nozzles for inlets	"	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	59	0
Do. Do. in flats	"	55	0
Extra labour and solder in coated cesspools	each	7	4
Welt joint	per ft. run.	0	6
Soldered seam	" "	1	10½
Copper nailing	" "	0	7

		½"	¾"	1"	1¼"	2"	4"
Drawn lead waste	per ft. run	11d.	1/7	1/10	3/3	4/-	
Do. service	"	1/6	2/-	2/4	3/8		
Do. soil	"						6/6
Bends in lead pipe	each					3/5	8/7
Soldered stop ends	"	1/3	1/9	2/2	3/-	3/8	
Red lead joints	"	11d.	1/-	1/4	2/-	2/6	5/1
Wiped soldered joints	"	3/-	3/8	4/3	5/2	6/10	10/3
Lead traps and cleaning screws	"				15/4	20/6	
Bib cocks and joints	"	7/1	10/8	17/1	45/6		
Stop cocks and joints	"	17/1	19/-	28/6	71/3		

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	3	2
Do. Do. Sirapite	" "	3	7
Do. Do. Keen's	" "	4	9
Add sawn lathing	" "	1	11
Add metal lathing	" "	3	4
Portland cement screed	" "	2	9
Do. plain face	" "	4	6
Mouldings in plaster	per 1 girth	0	3
One-and-a-half granolithic pavings	per yard sup.	6	7

GLAZIER.

		s.	d.
21 oz. sheet plain	per foot sup.	1	4
26 oz. Do.	" "	1	7
Obscured sheet	" "	1	9
⅛ in. rolled plate	" "	1	0
¼ in. rough rolled or cast plate	" "	1	1
¼ in. wired cast plate	" "	1	7

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	1	5
Knotting and priming	" "		11
Plain painting 1 coat	" "	1	5
Do. 2 coats	" "	2	3
Do. 3 coats	" "	3	0
Do. 4 coats	" "	3	10
Graining	" "	2	10
Varnishing twice	" "	2	4
Sizing	" "	0	4
Flatting	" "	0	9
Enamel	" "	1	11
Wax polishing	per foot sup.	0	10½
French polishing	" "	1	8
Preparing for and hanging paper	per piece	2/- to 5/-	

* These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach him *not later than Tuesday evening.*

* Denotes *accepted.* † Denotes *provisionally accepted*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modifications.*

ASHBY-DE-LA-ZOUCH.—For the erection of 46 houses of two types, 26 at Measham and 20 at Oakthorpe, for the R.D.C. Mr. W. B. Oxley, architect, Leicester :—

MEASHAM.

	Class "A." Per Pair.	Class "B." Per Pair.	To the whole Lay-Out. Fencing.	Paths.	Drainage.	Wells.
†B. Copeland, Leicester	£1,296 8 2	£1,540 7 6	£273 3 0	£313 9 9	£516 0 0	£234
B. Cole, Leicester	1,399 0 0	1,654 0 0	540 0 0	303 0 0	545 0 0	142
Southam Roones & Aldridge, Dordon, Tamworth	1,410 0 0	1,650 0 0	125 1 8	250 14 6	508 15 0	144
T. Lowe & Sons, Burton-on-Trent	1,507 0 0	1,777 0 0	244 0 0	337 0 0	543 0 0	165
G. Hodges & Son, Burton-on-Trent	1,522 0 0	1,790 0 0	249 0 0	349 0 0	535 0 0	180
T. Rowbotham, Birmingham	1,520 0 0	1,800 0 0	361 0 0	470 0 0	650 0 0	(c) 80
Adams Housing Syndicate (a)	1,520 0 0	1,730 0 0	148 17 0	479 17 0	360 14 3	——
E. O. C. Howells, Coventry (b)	1,580 0 0	1,880 0 0	240 0 0	465 0 0	660 0 0	220

(a) Adams' Patent Construction. (b) Howells' Patent Construction. (c) Provisional.

OAKTHORPE.

	Class "A." Per Pair.	Class "B." Per Pair.	To the whole Lay-Out. Fencing.	Paths.	Drainage.	Wells.
†B. Copeland, Leicester	£1,287 8 2	£1,530 7 6	£191 15 0	£177 17 3	£464 17 6	£234
B. Cole, Leicester	1,399 0 0	1,654 0 0	419 0 0	196 0 0	498 0 0	142
Southam Roones & Aldridge, Dordon, Tamworth	1,410 0 0	1,650 0 0	96 10 0	159 15 0	456 8 0	144
T. Lowe & Sons, Burton-on-Trent	1,507 0 0	1,777 0 0	184 0 0	181 0 0	490 0 0	165
G. Hodges & Son, Burton on-Trent	1,522 0 0	1,790 0 0	189 0 0	194 0 0	482 0 0	180
T. Rowbotham, Birmingham	1,520 0 0	1,800 0 0	278 0 0	324 0 0	602 0 0	(c) 80
Adams' Housing Syndicate (a)	1,520 0 0	1,730 0 0	117 6 3	200 12 0	328 9 9	——
E. O. C. Howells, Coventry (b)	1,580 0 0	1,880 0 0	185 0 0	280 0 0	600 0 0	220

(a) Adams' Patent Construction. (b) Howells' Patent Construction. (c) Provisional.

BOURNEMOUTH.—For painting and renovations at the Pokesdown Technical School, Christchurch-road, for the Education Committee :—

*W. E. Bailey, Bournemouth..... £176 15

BRIDLINGTON.—For the erection of 14 houses and 13 sets of farm buildings at Wilsthorpe Estate, Carnsley, for the East Riding C.C. Mr. Henry T. Tate, County Land Agent :—

*J. Sawdon, Wilsthorpe	£15,952 0 0
W. Tune, Osgodby	16,412 0 0
J. H. Metcalf, Doncaster	18,662 15 6
J. H. Thompson, Eastrington	19,750 0 0
Turner & Son, York	19,800 0 0
F. J. Whiting, Cottingham	19,850 0 0
Frank Spink, Bridlington	20,100 0 0
W. Birch & Son, York	20,800 0 0
C. Martin, York	21,313 16 6
J. T. Levitt, Hull	22,834 6 6
J. Allison & Sons, Pocklington	23,900 0 0
Fencing only—	
R. Chivers, Fraisthorpe	247 10 0

CARDIFF.—Erection of 762 houses, for the T.C. :—

*Cardiff Association of Federated Builders £1,768 7s. 6d. for pairs, and £3,040 for blocks of four.

CHELMSFORD.—Outside painting of houses in Rainsford-lane, for the T.C. :—

*A. N. Smith, Writtle..... £219 16 6

DUNNINGTON.—For the extension of Dunnington Reading Room, laying of new floor, &c. :—

*C. Martin, York..... £430

ELGIN.—For (1) laying-out of ground and forming footpaths; (2) erection of fences and gates for the Victoria-road Scheme, Elgin. Mr. R. B. Pratt, A.R.I.B.A., architect, Elgin; quantities by architect :—

Lay-out—
*Alex. Falconer, Elgin..... £190 19 0
Fences, etc.—
*W. H. McKilligan, Elgin..... 230 14 7
Painting—
*John James, Elgin..... 16 10 6

GLASGOW.—For execution of glazier work at municipal buildings extension, for the T.C. :—

*W. Meikle & Sons, Glasgow.. £9,223 12 3

HAYWARD'S HEATH.—In our last issue the title of the firm of Messrs. Stevens, Horlock & Co., of Hackney, whose tender has been accepted by the Hayward's Heath U.D.C. for the erection of 20 houses, was printed in error as "Stephen Horlock."

LENHAM.—For the construction of sewage disposal works at Lenham Sanatorium, for the Kent C.C. Messrs. Shenton & Easdale, engineers, 28, Victoria-street, S.W. 1. Quantities by Messrs. Hunt & Steward, 45, Parliament-street, S.W. 1.

*A. E. Farr, London	£2,503 0 0
G. Browning, Canterbury	2,528 0 0
Musselwhite & Son, Basingstoke	2,840 0 0
George Wimpey & Co., Ltd., Hammersmith	2,978 0 0
G. P. Trentham, Ltd., London	3,028 19 6
A. C. Soan, Thornton Heath	3,383 0 9
Road and Public Works, Ltd., Westminster	3,422 5 3

HORSHAM.—For the erection of 11 pairs of houses in Ifield-road, Crawley, for the R.D.C. Mr. W. R. Guilford, surveyor, 42, Albion-terrace, Horsham, Sussex :—

‡Murrell Bros., Horsham	£16,270
Cook & Son, Crawley	16,900
Hoad & Taylor, Horsham	16,900
Redford, Son & Tarratt, Horsham	16,963
Bodle & Co., Eastbourne	16,996
G. Potter, Horsham	17,000

INCHINNAN.—Erection of bridge over the River Cart at Inchinnan, for the Committee :—

*Sir W. Arrol & Co..... £67,500

KINGSBURY.—For fencing site of school, for the Middlesex C.C. :—

*Davis & Co., Ashford, Kent.....£225

KINGSTON-ON-THAMES.—For the erection of 12 houses on the Cambridge-road housing site, for the T.C. Mr. Thomas Graves, Borough Surveyor, Kingston-upon-Thames.

*D. G. Somerville & Co., Westminster	£10,160 0
Thorogood Bros., Surbiton	10,200 0
Purnell & Clifford, Slough	11,007 0
F. Draisey, Fulham	11,170 0
Ospen & Williams, Ltd., Westminster	11,388 18
Frederick Chandler, Luton	11,470 0
Prior, Watson & Co., Kingston	11,892 0
R. Manoell, Croydon	11,931 0
Adams Housing Syndicate, Ltd., Uxbridge	12,063 10
A. W. Norris, London, W.C.	12,600 0
King & Thursby, Kingston	12,620 0
Harry Offer, Ltd., Kingston	13,008 0
Landen & Read, Teddington	13,108 0
Slatter & Turner, Kingston	13,518 0
Rutherford & Woolford, Tolworth	13,770 0
W. H. Gaze & Sons, Kingston	13,885 0
F. Dilliway & Elvy, Kensington	13,891 0
Collinson & Co., Ltd., Teddington	13,977 0
C. Rigby, Ltd., Claygate	13,992 0
Stokes & Sons, Thames Ditton	14,000 0
E. F. Baverstock, Wimbledon	14,315 0
J. H. Martin, Croydon	15,024 0
A. Godden & Son, Ealing	17,832 0

LEAKE.—For the erection of eight workmen's dwellings on the Kirk Leys site, East Leake, in blocks of four; tendered per one block, Type "B" including fencing, drainage and paths, but excluding part cost (1/16th) of sewage installation, for the R.D.C. Mr. J. Gordon Barrett, Surveyor, Union Offices, Loughborough; quantities by Surveyor :—

*W. M. Corah & Sons, Loughborough	£2,777
A. J. Wileman, Loughborough	2,875
T. Barker & Sons, Loughborough	2,933
White and Kennewell, Nottingham	3,024
Perks & Sons, Long Eaton	3,161
E. Price, Last Leake	3,180
T. Bow, Nottingham	3,300

* Subject to approval of Housing Commissioner.

MARYPORT.—Supply and erection of three lift spiral guided gasholders, for the U.D.C. :—

*R. Dempster & Sons..... £5,250

MAYFIELD.—For drainage works, for the R.D.C.:—

*P. Birch & Sons..... £149

MILTON (STAFFS.).—For the erection of whole or any part of 50 houses, for the U.D.C. Mr. W. A. Baynes, architect, Pall Mall, Hanley. Quantities by architect.

*Ball & Eardley, Milton—12 pairs "A3," £1,696 per pair, £20,352; 9 pairs "B3," £1,936 per pair, £17,442.

Roads and Sewers—
*Taylor & Sons, Basford—Estimate No. 1, £160 12s. 7d.; Estimate No. 2, £5,982 2s. 8d.—£6,151 15s. 3d.
Sanders & Torrance, Stoke-on-Trent—£176 10s. 0d.; £6,564 11s. 3d.—£6,741 1s. 9d.
J. Moss & Sons, Milton—£173; £6,643—£6,816.
W. Yates, Endon—£160 16s.; £7,284 10s. 7d.—£7,445 6s. 7d.

SOUTH STONEHAM.—Erection of 16 houses at Bursledon, for the R.D.C. :—

*Burt & Roberts..... £11,604 2 8

STONE.—Erection of 50 houses, for the U.D.C. :—

*Leigh & Poole..... £750 per house

STRATFORD-ON-AVON.—For the erection of houses, for the R.D.C. Mr. J. Harvey, architect :—

	Per house, including site works, &c.
Snitterfield: 8 *Class "A" Houses*—	
*James Barber, Kenilworth	£793 15 0
Crouch Bros., Kenilworth	799 8 0
James Cox & Sons, Stratford-on-Avon	830 11 3
J. Harris & Sons, Stratford-on-Avon	855 5 9
Lewis Gorton, Birmingham	869 12 0
G. Whateley & Sons, Stratford-on-Avon	943 2 6
H. M. Grant & Co., Ltd., Birmingham	953 2 4½
Housing, Ltd., Birmingham	965 18 6
Langley: 2 *Class "A" Houses*—	
*James Barber, Kenilworth	840 0 0
Geo. Crouch, Warwick	902 11 6
Lewis Gorton, Birmingham	953 15 8½
H. M. Grant & Co., Ltd., Birmingham	1,028 2 0
Housing, Ltd., Birmingham	1,060 11 11½
Coppington Farm: 2 *Houses*—	
*Crouch Bros., Kenilworth	869 8 3
H. M. Grant & Co., Ltd., Birmingham	1,007 1 4
Lewis Gorton, Birmingham	1,033 3 1
Housing, Ltd., Birmingham	1,040 9 6
Fullbrooke: 2 *Class "A" Houses*—	
*James Barber, Kenilworth	834 10 0
Geo. Crouch, Warwick	894 11 0
Smith & Unitt, Stratford-on-Avon	897 1 7½
Crouch Bros., Kenilworth	914 1 6
Lewis Gorton, Birmingham	963 13 4
J. Harris & Sons, Stratford-on-Avon	988 17 8
Housing, Ltd., Birmingham	1,023 6 6½
H. M. Grant & Co., Birmingham	1,040 13 2½
Ettington: 6 *Class "A" Houses*—	
*Crouch Bros., Kenilworth	785 16 0
R. Brisker, Kineton	810 10 0
James Cox & Co., Stratford-on-Avon	841 0 0
J. Harris & Sons, Stratford-on-Avon	851 7 5
Lewis Gorton, Birmingham	872 4 9
Housing, Ltd., Birmingham	877 7 9
H. M. Grant & Co., Ltd., Birmingham	949 15 7
G. Whateley & Sons, Stratford-on-Avon	1,130 0 0
Hampton Lucy: 8 *Class "A" Houses*—	
*Crouch Bros., Kenilworth	799 18 0
Smith & Unitt, Stratford-on-Avon	802 2 6½
J. Harris & Sons, Stratford-on-Avon	863 7 8
Lewis Gorton, Birmingham	869 12 0
James Cox & Co., Stratford-on-Avon	870 10 9

LONDON.—Repaving of carriageway in Gainsborough-place, for the Hackney B.C. :—

	Material proposed.		Price per Sq. yard.	Maintenance.
*Constable, Hart & Co., Ltd., E.C.4	Under coat of the reconstructed stone	2¾ in.	£0 16 3	Free for 5 years.
	Top wearing surface of standard Aztecphalte	1¼ „		
	Total thickness	4 „		
H. V. Smith & Co., Ltd., S.E.1	Base	2¾ in.	16 9	Free for 3 years. Further 3 years at 6d. per sq. yd. per annum.
	Wearing surface	1¼ „		
	Total thickness	4 „		
Val de Travers Asphalte Paving Co., Ltd., E.C.2	2-in broken Guernsey granite grouted with natural asphalte matrix and covered with layer of ¼ in. granite chippings.		0 18 0	Free for 2 years.
	Total thickness	4 in.		
Highways Construction, Ltd., S.W.1	Binder course	2¼ in.	1 0 0	Not stated.
	Monolastic wearing surface	1¼ „		
	Total thickness	4 „		

H. M. Grant & Co., Ltd., Birmingham	957	3	6½
G. Whateley & Sons, Stratford-on-Avon	958	0	0
Housing, Ltd., Birmingham	981	2	6
Loxley: 8 *Class "A" Houses*—			
*Crouch Bros., Kenilworth	804	14	7½
James Cox & Co., Stratford-on-Avon	859	12	6
Lewis Gorton, Birmingham	865	14	1
Housing, Ltd., Birmingham	955	19	0
H. M. Grant & Co., Ltd., Birmingham	943	7	0½
G. Whateley & Sons, Stratford-Avon	972	3	6

Hatton Rock: 2 *Class "A" Houses*—			
*Smith & Unitt, Stratford-on-Avon	833	18	10
James Cox & Co., Stratford-on-Avon	896	0	0
Crouch Bros., Kenilworth	899	11	6
*Lewis Gorton, Birmingham	933	3	10½
H. M. Grant & Co., Ltd., Birmingham	1,010	18	0
Housing, Ltd., Birmingham	1,018	19	7

AMENDED TENDERS.

Liveridge Hill: 4 *Class "A" Houses*—			
*Geo. Crouch, Warwick	770	0	0
Henley-in-Arden: 12 *Houses*—			
*Geo. Crouch, Warwick	750	0	0
Hunscote Farm: 2 *Houses*—			
*Smith & Unitt, Stratford-on-Avon	834	1	6
Charlecote Village: 2 *Houses*—			
*Smith & Unitt, Stratford-on-Avon	834	14	2

*Accepted subject to the approval of the Ministry of Health.

STREATHAM.—For proposed additions, new baths, dressing-rooms, etc., for the Streatham and District Sports Club, Ltd. Mr. Sydney W. Parker, architect, 26, Ludgate-hill, E.C. 4 :—

*G. P. & H. Barnes	£820
Truet & Steel	960
Dowson & Co.	1,500

TREDEGAR.—Erection of 162 houses, for the U.D.C. :—

	Total.	per house.
*United Valleys Building Guild	£132,070 12 6	£815
Gay & Co., Ltd., Victoria-street, Westminster	148,484 0 0	916
Adams' House Syndicate, Ltd. Uxbridge (concrete houses)	133,640 0 0	823
Richard Jones, St. Martin's-road, Caerphilly	162,221 0 0	1,000

*Recommended to the Ministry of Health for acceptance.

The Reconstruction Society.

The Reconstruction Society, which has for its object, irrespective of political views, the regeneration of British prosperity, has come to the conclusion that one of the means to this end is the education and enlightenment of all sections of the community. It is, therefore, prepared to offer to manufacturers and the managers of industrial organisations, societies, clubs, brotherhoods, &c., the services of specially-trained speakers, at places and times to be arranged, to explain the problems of the industrial situation in an endeavour to indicate the way out. Further particulars may be had from the Secretary of the Society, 58 & 60, Victoria-street, Westminster, S.W. 1.

The Church Building Society.

At the monthly meeting of the Incorporated Church Building Society, held at 7, Dean's Yard, Westminster, on May 26, the Hon. Sir E. P. Thesiger, K.C.B., in the chair, grants were made towards repairing the churches at Brompton, Holy Trinity, Kent, £125; North Marston, S. Mary, Bucks., £105; Portland, S. John, Dorset, £50; and Spreyton, S. John, Devon, £20; and towards building a new church at Unstone, S. Mary, near Sheffield, £105. £1,223 was also paid towards small repairs to 55 other churches. The monthly meeting was followed by the annual general court, at which the following were elected to fill vacancies on the Committee :—The Rev. Maurice Child, F.R.G.S., and Sir Leicester Harmsworth, Bart., M.P.

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